

TOSHIBA

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▮ Selection Guide

Small Signal and Logic Devices

2017 February

Contents

1. MOSFETs	3-8
1-1) Over 500mA Series MOSFET (Semi-Power type)	3-5
1-2) Less than 500mA Series MOSFET (Standard type)	6-7
1-3) Part Naming Conventions	8
2. Transistors	9-13
2-1) General-Purpose Transistors	9-10
2-2) Bias Resistor Built-in Transistors (BRTs)	11-13
3. Small Signal Diodes	14-21
3-1) Schottky Barrier Diodes (SBDs)	14-15
3-2) Switching Diodes	16-17
3-3) TVS Diodes (ESD Protection Diodes)	18-20
3-4) Part Naming Conventions	21
4. Linear ICs	22-24
4-1) Low drop-out (LDO) Single-output regulators	22
4-2) Load Switch ICs and Power Multiplexer ICs	23
4-3) OP Amp, Comparator and Magnetic sensor	24
5. Logic Devices	25-29
5-1) One-Gate Logic (LMOS)	25
5-2) Standard Logic 74VHC Series, 74LCX Series	26-27
5-3) Standard Logic 74HC Series, TC4000B Series	28
5-4) Part Naming Conventions	29
6. Bus Switches	30-31
6-1) High-Speed Transmission Type	30
6-2) General Purpose Bus Switches and Level Translation Function Type	31
7. Radio-Frequency Devices	32-35
7-1) RF Diodes	32-33
7-2) RF MOSFETs	34
7-3) RF Transistors	35
8. Device Packages	36-42

1. MOSFETs

Over 500mA Series MOSFET (Semi-Power type)

CST3 (SOT-883)	CST3B	VESM (SOT-723)	SSM (SOT-416)	UFM (SOT-323F)	SOT-23F (SOT-23)	S-Mini (SOT-346)	ES6 (SOT-563)	UF6 (SOT-363F)	TSOP6F	UDFN6B (SOT-1220)	WCSP6C
Bottom View	Bottom View									Bottom View	Bottom View

P-Channel Single MOSFET

Package	Part Number	Voss (V)	Vgss (V)	Id (A)	Rds(ON) max (mΩ)						Qg typ. (nC)	Ciss typ. (pF)	Note
					Vgs=- -1.2V	Vgs=- -1.5V	Vgs=- -1.6V	Vgs=- -2.5V	Vgs=- -4V	Vgs=- -4.5V			
CST3	SSM3J56ACT ☆	-20	±8	-1.4	4000	900	660	480	390	390	1.6	100	
CST3B	SSM3J46CTB	-20	±8	-2.0		250	178	133		103		4.7	290
VESM	SSM3J56MFV	-20	±8	-0.8	4000	900	660	480		390		1.6	100
WCSP6C	SSM6J711G	-20	±12	-5.0					47.5	35	34.7(@-8V) 31(@-8.5V)	9.8	870
ES6	SSM6J216FE	-12	±8	-4.8		88.1	56	39.3		32		12.7	1040
	SSM6J213FE	-20	±8	-2.6		250	178	133		103		4.7	290
	SSM6J215FE	-20	±8	-3.4		154	104	79		59		10.4	630
	SSM6J212FE	-20	±8	-4.0		94	65.4	49		40.7		14.1	970
	SSM6J207FE	-30	±20	-1.4					491		251	-	137
	SSM6J214FE	-30	±12	-3.6			149.6	77.6		57	50	7.9	560
UFM	SSM3J132TU	-12	±6	-5.4	94	39	29	21		17		33	2700
	SSM3J135TU	-20	±8	-3.0		260	180	132		103		4.6	270
	SSM3J134TU	-20	±8	-3.2		240	168	123		93		4.7	290
	SSM3J120TU ● #	-20	±8	-4.0		140	78	49	38			22.3	1484 ⇒ SSM3J133TU
	SSM3J130TU	-20	±8	-4.4		63.2	41.1	31		25.8		24.8	1800
	SSM3J133TU	-20	±8	-5.5		88.4	56	39.7		29.8		12.8	840
	SSM3J112TU #	-30	±20	-1.1					790		390	-	86
SSM3J118TU #	-30	±20	-1.4					480		240	-	137	
SSM3J117TU #	-30	±20	-2.0					225		117	-	280	
UF6	SSM6J50TU #	-20	±10	-2.5			205(@-2V)	100		64		-	800
	SSM6J412TU	-20	±8	-4.0		99.6	67.8	51.4		42.7		12.8	840
	SSM6J414TU	-20	±8	-6.0		54	36	26		22.5		23.1	1650
	SSM6J402TU #	-30	±20	-2.0					225		117	5.3	280
	SSM6J410TU #	-30	±20	-2.1					393		216	2.9	120
SSM6J401TU #	-30	±20	-2.5					145		73	16	730	
UDFN6B	SSM6J512NU ☆	-12	±10	-10.0			40.1	25.7	20.5(@-3.6V)	18.7	16.2(@-8V)	19.5	1400
	SSM6J505NU	-12	±6	-12.0	61	30	21	16		12		37.6	2700
	SSM6J511NU ☆	-12	±10	-14.0			19.2	13.5	11.5(@-3.6V)	10	9.1(@-8V)	47	3350
	SSM6J503NU	-20	±8	-6.0		89.6	57.9	41.7		32.4		12.8	840
	SSM6J502NU	-20	±8	-6.0		60.5	38.4	28.3		34.1		24.8	1800
	SSM6J501NU	-20	±8	-10.0		43	26.5	19		15.3		29.9	2600
	SSM6J509NU ★	-30	-25/+20	-4.0					77 (typ.)	66 (typ.)	42 (typ.)	TBD	600
	SSM6J508NU ★	-30	-25/+20	-6.0					46 (typ.)	40 (typ.)	26 (typ.)	TBD	1083
	SSM6J507NU ☆	-30	-25/+20	-10.0					32	28	20	13.6	1150
	SSM6J356NU ★	-60	-20/+10	-2.0					400	360	300	8.3	330
SSM6J351NU ★	-60	-20/+10	-3.5						200	150	TBD	490	
SOT-23F	SSM3J338R ☆	-12	±10	-6.0			45.3	27.9	21.9(@-3.6V)	20.2	17.6(@-8V)	19.5	1400
	SSM3J327R	-20	±8	-3.9		240	168	123		93		4.6	290
	SSM3J331R	-20	±8	-4.0		150	100	75		55		10.4	630
	SSM3J328R ●	-20	±8	-6.0		88.4	56	39.7		29.8		12.8	840 ⇒ SSM3J355R
	SSM3J355R ☆	-20	±10	-6.0			52.3	38.8		30.1		16.6	1030
	SSM3J358R ☆	-20	±10	-6.0			49.3	32.8	27.7(@-3.6V)	25.3	22.1(@-8V)	38.5	1331
	SSM3J340R ☆	-30	-25/+20	-4.0					86	73	45	6.2	492
	SSM3J334R	-30	±20	-4.0					136	105	71	5.9	280
	SSM3J332R	-30	±12	-6.0			144	72		50	42	8.2	560
	SSM3J356R ☆ #	-60	-20/+10	-2.0					400	360	300	8.3	330
	SSM3J351R ☆ #	-60	-20/+10	-3.5					184	164	134	15.1	660
	SSM3J352F ☆	-20	±12	-2.0			443	199		136	110	5.1	210
S-Mini	SSM3J325F	-20	±8	-2.0		311	231	179		150		4.6	270
	SSM3J353F ☆	-30	-25/+20	-2.0				274	232	150	3.4	159	
TSOP6F	SSM6J801R ☆	-20	-8/+6	-6.0		88.4	56	39.7		32.5		12.8	840
	SSM6J808R ★	-40	-20/+10	-7.0					TBD	TBD	TBD	TBD	

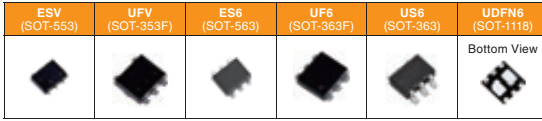
☆ New products, ★ Under development (specification might be changed without notice), ● Recommend Another New Product
Available conformable product to AEC-Q101

N-Channel Single MOSFET

Package	Part Number	V _{GS} (V)	V _{DS} (V)	I _D (A)	R _{DS(ON)} max (mΩ)						Q _g typ. (nC)	C _{iss} typ. (pF)	Note	
					V _{GS} =1.2V	V _{GS} =1.5V	V _{GS} =1.8V	V _{GS} =2.5V	V _{GS} =4V	V _{GS} =4.5V				V _{GS} =10V
CST3	SSM3K56CT ●	20	±8	0.8		840	480	300		235		1.0	55	⇒ SSM3K56ACT
	SSM3K56ACT ☆	20	±8	1.4		840	480	300		235		1.0	55	
CST3B	SSM3K59CTB ☆	40	±12	2.0			420	268		238(@3.6V) 231(@4.2V)	215(@8V)	1.1	130	
VESM	SSM3K36MFV #	20	±10	0.5		1520	1140	850		660	630(@5V)	1.23	46	
	SSM3K56MFV #	20	±8	0.8		840	480	300		235		1.0	55	
WCSP6C	SSM6K781G	12	±8	7.0		124	47.4	23.2		18		5.4	600	
SSM	SSM3K43FS ● #	20	±10	0.5		1520	1140	850		660	630(@5V)	1.23	46	⇒ SSM3K56FS
	SSM3K36FS ● #	20	±10	0.5		1520	1140	850		660	630(@5V)	1.23	46	⇒ SSM3K56FS
	SSM3K56FS ☆ #	20	±8	0.8		840	480	300		235		1.0	55	
ES6	SSM6K204FE	20	±10	2.0		307	214	164	126			3.4	195	
	SSM6K211FE	20	±10	3.2		118	82	59		47		10.8	510	
	SSM6K24FE	30	±12	0.5				180		145		-	245	
	SSM6K208FE	30	±12	1.9			296	177	133			1.9	123	
	SSM6K202FE	30	±12	2.3			145	101	85			-	270	
	SSM6K217FE ☆	40	±12	1.8			400	248	218(@3.6V) 211(@4.2V)	208	195(@8V)	1.1	130	
UFM	SSM3K36TU #	20	±10	0.5		1520	1140	850		660	630(@5V)	1.23	46	
	SSM3K62TU ☆ #	20	±8	0.8	432	139	89	68		57		2.0	177	
	SSM3K122TU #	20	±10	2.0		304	211	161	123			3.4	195	
	SSM3K121TU #	20	±10	3.2		140	93	63	48			5.9	400	
	SSM3K123TU #	20	±10	4.2		66	43	32	28			13.6	1010	
	SSM3K127TU #	30	±12	2.0			286	167	123			1.5	123	
	SSM3K116TU #	30	±12	2.2				135		100		-	245	
	SSM3K119TU ● #	30	±12	2.5			134	90	74			-	270	⇒ SSM3K123TU
	SSM3K131TU #	30	±20	6.0						41.5	27.6	10.1	450	
	SSM3H137TU ☆ #	34	±20	2.0					295	280	240	3.0	119	Built-in Active Clamp Zener
UF6	SSM3K2615TU ☆ #	60	±20	2.0				580(@3.3V)	440		300	6.0	150	
	SSM3K341TU ★ #	60	±20	6.0					69	51	36	9.3	550	
	SSM3K361TU ★ #	100	±20	3.5						92	69	3.2	430	
	SSM6K405TU	20	±10	2.0		307	214	164	126			3.4	195	
	SSM6K404TU #	20	±10	3.0		147	100	70	55			5.9	400	
	SSM6K403TU #	20	±10	4.2		66	43	32	28			16.8	1050	
UDFN6B	SSM6K406TU #	30	±20	4.4						38.5	25	12.4	490	
	SSM6K407TU #	60	±20	2.0					440		300	6.0	150	
	SSM6K504NU #	30	±20	9.0						26	19.5	4.8	620	
	SSM6K513NU ☆ #	30	±20	15.0						12	8.9	7.5	1130	
	SSM6K514NU ☆ #	40	±20	12.0						17.3	11.6	7.5	1110	
	SSM6K341NU ★ #	60	±20	6.0					69	51	36	9.3	550	
SOT-23F	SSM6K361NU ★ #	100	±20	3.5						92	69	3.2	430	
	SSM3K344R ★	20	±8	4.0		327	164	100		72		TBD	153	
	SSM3K345R ★	20	±8	4.7			47	35	31			TBD	113	
	SSM3K336R ☆ #	30	±20	3.0						140	95	1.7	126	
	SSM3K329R #	30	±12	3.5			289	170	126			1.5	123	
	SSM3K324R ●	30	±12	4.0			109	72		56		2.2	200	⇒ SSM3K344R
	SSM3K335R #	30	±20	6.0						56	38	2.7	340	
	SSM3K333R #	30	±20	6.0						42	28	3.4	436	
	SSM3K347R ☆ #	38	±20	2.0					480	410	340	2.5	86	Built-in Active Clamp Zener
	SSM3K337R #	38	±20	2.0					200	176	150	3.0	120	Built-in Active Clamp Zener
	SSM3K339R	40	±12	2.0			390	238	208(@3.6V) 201(@4.2V)	198	185(@8V)	1.1	130	
	SSM3K2615R ☆ #	60	±20	2.0				580(@3.3V)	440		300	6.0	150	
SSM3K318R ☆ #	60	±20	2.5						145	107	7.0	235		
SSM3K341R ☆ #	60	±20	6.0					69	51	36	9.3	550		
SSM3K361R ☆ #	100	±20	3.5						92	69	3.2	430		
TSOP6F	SSM6K810R ★	100	±20	3.5						92	69	3.2	430	

☆ New products, ★ Under development (specification might be changed without notice), ● Recommend Another New Product
Available conformable product to AEC-Q101

Over 500mA Series MOSFET (Semi-Power type)



Dual MOSFET

Package	Polarity	Part Number	V _{DS} (V)	V _{GS} (V)	I _D (A)	R _{DS(on)} max (mΩ)						Q _g typ. (nC)	C _{iss} typ. (pF)	Note		
						I _{VGS} = 1.2V	I _{VGS} = 1.5V	I _{VGS} = 1.8V	I _{VGS} = 2.5V	I _{VGS} = 4V	I _{VGS} = 4.5V				I _{VGS} = 10V	
ES6	Pch x 2	SSM6P41FE	-20	±8	-0.72		1040	670	440		300		1.76	110		
		SSM6N36FE #	20	±10	0.5		1520	1140	850		660	630(@5V)	1.2	46		
	Nch x 2	SSM6N56FE ☆ #	20	±8	0.8		840	480	300		235		1.0	55		
			20	±10	0.8		600	450	330		240		2.0	90		
		SSM6L14FE	-20	±8	-0.72		1040	670	440		300		1.76	110		
		SSM6L36FE #	20	±10	0.5		1520	1140	850		660	630(@5V)	1.23	46		
UDFN6	Pch x 2	SSM6P47NU	-20	±8	-4.0		242	170	125		95		4.6	290		
		SSM6P49NU	-20	±12	-4.0			157	76		56	45	6.74	480		
		SSM6N61NU ☆ #	20	±8	4.0		108	74	45		33		3.6	410		
	Nch x 2	SSM6N55NU #	30	±20	4.0						64	46	2.5	280		
		SSM6N57NU	30	±12	4.0			82	53		39.1		3.2	310		
		SSM6N58NU	30	±12	4.0			180	117		84		1.8	129		
		SSM6L61NU ☆	20	±8	4.0		108	74	45		33		3.6	410		
	Nch + Pch	SSM6L61NU ☆	-20	±12	-4.0			157	76		56	45	6.74	480		
	UF6	Pch x 2	SSM6P54TU #	-20	±8	-1.2		555	350	228				7.7	331	
SSM6P39TU #			-20	±8	-1.5				430	294	213			6.4	250	
SSM6P40TU #			-30	±20	-1.4						403		2.9	120		
SSM6N36TU #			20	±10	0.5		1520	1140	850		660	630(@5V)	1.23	46		
SSM6N62TU ☆ #			20	±8	0.8	456	173	120	98		85		2.0	177		
SSM6N39TU #			20	±10	1.6		247	190	139	119			7.5	260		
Nch x 2		SSM6N24TU #	30	±12	0.5				180		145		-	245		
		SSM6N40TU #	30	±20	1.6					182		122	5.1	180		
			20	±10	0.5		1520	1140	850		660	630(@5V)	1.23	46		
		SSM6L36TU #	-20	±8	-0.33		3600	2700	1600(@2.8V)		1310		1.2	43		
		SSM6L39TU #	20	±10	1.6		247	190	139	119			7.5	260		
		SSM6L39TU #	-20	±8	-1.5			430	294	213			6.4	250		
		SSM6L12TU #	30	±12	0.5				180		145		-	245		
		SSM6L12TU #	-20	±12	-0.5				430		260		-	218		
SSM6L40TU #	30	±20	1.6					182		122	5.1	180				
SSM6L40TU #	-30	±20	-1.4					403		226	2.9	120				
US6	Nch x 2	SSM6N43FU #	20	±10	0.5		1520	1140	850		660	630(@5V)	1.23	46		

☆ New products, ★ Under development (specification might be changed without notice)

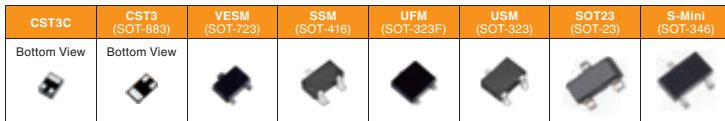
Available conformable product to AEC-Q101

MOSFET with Diode

Package	Polarity	Part Number	MOSFET											Diode				Note
			V _{DS} (V)	V _{GS} (V)	I _D (A)	R _{DS(on)} max (mΩ)						C _{iss} typ. (pF)	V _R (V)	I _D (A)	V _F max (V)			
						I _{VGS} = 1.5V	I _{VGS} = 1.8V	I _{VGS} = 2.5V	I _{VGS} = 4V	I _{VGS} = 4.5V	I _{VGS} = 10V				@I _F (A)	@I _R (A)		
ESV	Pch + SBD	SSM5G06FE	-20	±10	-0.1	45000		12000	8000				11	12	0.1	0.5	0.1	
	Nch + SBD	SSM5H06FE	20	±10	0.1	15000		4000	3000			9.3	12	0.1	0.5	0.1		
UFV	Pch + SBD	SSM5G09TU	-12	±8	-1.5			200	130				550	12	0.5	0.43	0.5	
		SSM5G02TU	-12	±12	-1.0			240	160				310	12	0.5	0.43	0.5	
		SSM5G11TU	-30	±20	-1.4					403		226	120	30**	0.7	0.44	0.7	
	Nch + SBD	SSM5H08TU	20	±12	1.5				220	160			125	20	0.5	0.43(typ)	0.5	
		SSM5H16TU	30	±12	1.9			296	177	133			123	30	0.8	0.55	0.8	
		SSM5H11TU	30	±20	1.6					182		122	180	30	0.7	0.44	0.7	
		SSM5H01TU	30	±20	1.4					450		200	106	20	0.5	0.43(typ)	0.5	
	Nch + Switching diode	SSM5H90ATU	20	±10	2.4				89	65			200	80	0.1	1.2	0.1	
UDFN6	Pch + SBD	SSM6G18NU	-20	±8	-2.0	261	185	143		112		270	30	1.0	0.58	1.0		
	Nch + SBD	SSM6H19NU	40	±12	2.0		390	238	208(@3.5V) 201(@4.2V)	198	185(@8V)	130	40	0.5	0.57	0.5		

** V_{RRM}

Less than 500mA Series MOSFET (Standard type)



P-Channel Single MOSFET

Package	Part Number	V _{DSS} (V)	V _{GSS} (V)	I _D (mA)	R _{DS(ON)} max (Ω)							Note
					V _{GS} =-1.2V	V _{GS} =-1.5V	V _{GS} =-1.8V	V _{GS} =-2.5V	V _{GS} =-4V	V _{GS} =-4.5V	V _{GS} =-10V	
CST3C	SSM3J35CTC ☆ ※	-20	±10	-250	20	4	2.9	2.1		1.4		
	SSM3J35CT	-20	±10	-100	44	22		11	8			
CST3	SSM3J16CT ●	-20	±10	-100		45		12	8			⇒SSM3J35CT
	SSM3J15CT	-30	±20	-100				32	12			
VESM	SSM3J16FV ● #	-20	±10	-100				45	12	8		⇒SSM3J56MFV
	SSM3J35MFV ● #	-20	±10	-100	44	22		11	8			⇒SSM3J56MFV
	SSM3J35AMFV ★ #	-20	±10	-250	20			2.1				
	SSM3J36MFV ● #	-20	±8	-330		3.6	2.7	1.6 (@-2.8V)		1.31		⇒SSM3J56MFV
SSM	SSM3J15FV #	-30	±20	-100				32	12			
	SSM3J35FS #	-20	±10	-100	44	22		11	8			
	SSM3J35AFS ★ #	-20	±10	-250	20			2.1				1.4
	SSM3J36FS #	-20	±8	-330		3.6	2.7	1.6 (@-2.8V)		1.31		
	SSM3J16FS ● #	-20	±10	-100		45		12	8			⇒SSM3J35FS
	SSM3J15FS #	-30	±20	-100				32	12			
UFM	SSM3J36FU #	-20	±8	-330		3.6	2.7	1.6 (@-2.8V)		1.31		
	SSM3J16FU #	-20	±10	-100		45		12	8			
USM	SSM3J15FU #	-30	±20	-100				32	12			
	SSM3J09FU #	-30	±20	-200				6 (@-3.3V)	4.2			2.7
	SSM3J15F #	-30	±20	-100				32	12			
S-Mini	2SJ305 #	-30	±20	-200				4				
	SSM3J168F ☆ #	-60	±20/±10	-400					2	1.9		1.55
	2SJ168 ●	-60	±20	-200						2		⇒SSM3J168F

☆ New products, ★ Under development (specification might be changed without notice), * 2kV ESD(HBM) level

● Recommend Another New Product, # Available conformable product to AEC-Q101

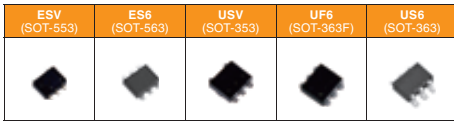
N-Channel Single MOSFET

Package	Part Number	V _{DSS} (V)	V _{GSS} (V)	I _D (mA)	R _{DS(ON)} max (Ω)							Note
					V _{GS} =1.2V	V _{GS} =1.5V	V _{GS} =1.8V	V _{GS} =2.5V	V _{GS} =4V	V _{GS} =4.5V	V _{GS} =5V	
CST3C	SSM3K16CTC ☆	20	±10	200		5.6	4	3		2.2		
	SSM3K35CTC ☆	20	±10	250	9	3.1	2.4	1.6		1.1		
	SSM3K15ACTC ☆	30	±20	100				6	3.6			
	SSM3K72CTC ☆	60	±20	150				5.7 (typ.)		4.7	4.4	3.9
CST3	SSM3K16CT ●	20	±10	100		15		4	3			⇒SSM3K37CT
	SSM3K35CT	20	±10	180	20	8		4	3			
	SSM3K37CT	20	±10	200		5.6	4.05	3.02		2.2		
	SSM3K15ACT	30	±20	100				6	3.6			
	SSM3K15CT ●	30	±20	100				7	4			⇒SSM3K15ACT
	SSM3K72KCT ☆ ※	60	±20	400						1.75	1.65	1.5
VESM	SSM3K16FV ● #	20	±10	100		15		4	3			⇒SSM3K37MFV
	SSM3K35MFV #	20	±10	180	20	8		4	3			
	SSM3K37MFV #	20	±10	250		5.6	4.05	3.02		2.2		
	SSM3K35AMFV ☆	20	±10	250	9	3.1	2.4	1.6		1.1		
	SSM3K15AMFV #	30	±20	100				6	3.6			
	SSM3K44MFV #	30	±20	100				7	4			
SSM	SSM3K16FS ● #	20	±10	100		15		4	3			⇒SSM3K37FS
	SSM3K35FS #	20	±10	180	20	8		4	3			
	SSM3K37FS #	20	±10	200		5.6	4.05	3.02		2.2		
	SSM3K35AFS ☆	20	±10	250	9	3.1	2.4	1.6		1.1		
	SSM3K15AFS #	30	±20	100				6	3.6			
	SSM3K15FS ● #	30	±20	100				7	4			⇒SSM3K15AFS
	SSM3K44FS #	30	±20	100				7	4			
	SSM3K72CFS ☆	60	±20	170						4.7	4.4	3.9
USM	SSM3K72KF #	60	±20	300						1.75	1.65	1.5
	SSM3K16FU #	20	±10	100		15		4	3			
	SSM3K48FU ※	30	±20	100				5.4	3.2			
	SSM3K15AFU #	30	±20	100				6	3.6			
	SSM3K15FU ● #	30	±20	100				7	4			⇒SSM3K15AFU
	SSM3K09FU #	30	±20	400				1.7 (@3.3V)	1.2			0.7
	SSM3K17FU #	50	±7	100				40	20			
SOT23	SSM3K7002CFU ☆	60	±20	170						4.7	4.4	3.9
	SSM3K7002KFU ☆ ※ #	60	±20	400						1.75	1.65	1.5
	T2N7002AK ☆	60	±20	200						4.7	4.4	3.9
	T2N7002BK ☆ ※	60	±20	400						1.75	1.65	1.5
S-Mini	SSM3K15F #	30	±20	100				7	4			
	2SK2009 #	30	±20	200				2				
	SSM3K7002KF ☆ ※ #	60	±20	400						1.75	1.65	1.5

☆ New products, ★ Under development (specification might be changed without notice), * 2kV ESD(HBM) level

● Recommend Another New Product, # Available conformable product to AEC-Q101

■ Less than 500mA Series MOSFET (Standard type)



Dual MOSFET

Package	Polarity	Part Number	V _{DSS} (V)	V _{GSS} (V)	I _D (mA)	R _{DS(ON)} max (Ω)							Note		
						I _{VGS} = 1.2V	I _{VGS} = 1.5V	I _{VGS} = 1.8V	I _{VGS} = 2.5V	I _{VGS} = 4V	I _{VGS} = 4.5V	I _{VGS} = 5V		I _{VGS} = 10V	
ESV	Pch x 2	SSM5P16FE	-20	±10	-100		45			12	8				
		SSM5P15FE	-30	±20	-100				32	12					
	Nch x 2	SSM5N16FE	20	±10	100		15			4	3				
		SSM5N15FE	30	±20	100				7	4					
ES6	Pch x 2	SSM6P35FE #	-20	±10	-100	44	22			11	8				
		SSM6P35AFE ★	-20	±10	-250	20				2.1		1.4			
		SSM6P16FE ● #	-20	±10	-100		45			12	8			⇒SSM6P35FE	
		SSM6P36FE #	-20	±8	-330		3.6	2.7	1.6(±2.8V)			1.31			
	Nch x 2	SSM6P15FE #	-30	±20	-100					32	12				
		SSM6N16FE ● #	20	±10	100		15			4	3			⇒SSM6N37FE	
		SSM6N35FE #	20	±10	180	20	8			4	3				
		SSM6N35AFE ☆	20	±10	250	9	3.1	2.4	1.6		1.1				
		SSM6N37FE #	20	±10	250		5.6	4.05	3.02		2.2				
		SSM6N44FE #	30	±20	100					7	4				
		SSM6N15AFE #	30	±20	100					6	3.6				
		SSM6N7002BFE #	60	±20	200							3.3	2.6	2.1	
		Pch+Nch	SSM6L35FE #	-20	±10	-100	44	22			11	8			
			SSM6L16FE ● #	-20	±10	-100		45			12	8			⇒SSM6L35FE
			SSM6L36FE #	-20	±10	100		15			4	3			
				-20	±10	-330		3.6	2.7	1.6(±2.8V)			1.31		
	USV	Pch x 2	SSM5P15FU	-30	±20	-100				32	12				
			SSM5N16FU	20	±10	100		15			4	3			
		Nch x 2	SSM5N15FU	30	±20	100				7	4				
			SSM6P36FU #	-20	±8	-330		3.6	2.7	1.6(±2.8V)		1.31			
UF6	Pch+Nch	SSM6L36FU #	-20	±8	-330		3.6	2.7	1.6(±2.8V)		1.31				
		SSM6L36TU #	-20	±10	500		1.52	1.14	0.85		0.66		0.63(±5V)		
US6	Pch x 2	SSM6P16FU ● #	-20	±10	-100		45			12	8			⇒SSM6P35FU	
		SSM6P35FU #	-20	±10	-100	44	22			11	8				
		SSM6P35AFU ★	-20	±10	-250	20				2.1		1.4			
		SSM6P15FU #	-30	±20	-100					32	12				
	Nch x 2	SSM6N16FU ● #	20	±10	100		15			4	3			⇒SSM6N37FU	
		SSM6N35FU #	20	±10	180	20	8			4	3				
		SSM6N35AFU ☆	20	±10	250	9	3.1	2.4	1.6		1.1				
		SSM6N37FU #	20	±10	250		5.6	4.05	3.02		2.2				
		SSM6N15FU ● #	30	±20	100					7	4			⇒SSM6N15AFU	
		SSM6N44FU #	30	±20	100					7	4				
		SSM6N48FU *	30	±20	100					5.4	3.2				
		SSM6N15AFU #	30	±20	100					6	3.6				
		SSM6N09FU #	30	±20	400					1.7(±3.3V)	1.2			0.7	
		SSM6N17FU #	50	±7	100					40	20				
		SSM6N7002CFU ☆	60	±20	170							4.7	4.4	3.9	
		SSM6N7002KFU ☆ # *	60	±20	300							1.75	1.65	1.5	
	Pch+Nch	SSM6L35FU #	-20	±10	-100	44	22			11	8				
			-20	±10	180	20	8			4	3				
			-30	±20	-200					6(±3.3V)	4.2			2.7	
	SSM6L09FU #	30	±20	400					1.7(±3.3V)	1.2			0.7		

☆ New products, * 2kV ESD(HBM) level, ● Recommend Another New Product

Available conformable product to AEC-Q101

Part Naming Conventions

Example of Small-Signal MOSFET SSM Series

SSM 3 K 101 TU

Package Suffix

3pin	5pin
F : S-Mini	F : SMV
FU : USM	FU : USV
FS : SSM	FE : ESV
FV : VESM	TU : UFV
TU : UFM	6pin
CT : CST3	G : WCSP6C
CTB : CST3B	R : TSOP6F
CTC : CST3C	FU : US6
R : SOT-23F	FE : ES6
	TU : UF6
	NU : UDFN6/B

Serial number of the products

Polarity and internal configuration

K : N-channel, Single
 J : P-channel, Single
 N : N-channel, Dual
 P : P-channel, Dual
 L : N-channel and P-channel (Dual)
 E : N-channel and P-channel (pre-wired as a load switch)
 H : N-channel and SBD
 G : P-channel and SBD
 Q : PNP and P-channel

Pin count

Small-Signal MOSFET

2. Transistors

General-Purpose Transistors

Classification	IV _{CE01} (V)	II _{Cl} (mA)	CST3 SOT-883		VESM SOT-723		SSM SOT-416		SOT23			
			Bottom View									
			Part Number									
General purpose	50	100	NPN	PNP	NPN	PNP	NPN	PNP	NPN	PNP		
					2SC6026CT	2SA2154CT						
General purpose	50	150			2SC6026MFV #	2SA2154MFV #	2SC4738 #	2SA1832 #	TMBT3904 ☆	TMBT3906 ☆		
									TBC847 ☆	TBC857 ☆		

☆ New Products

Available conformable product to AEC-Q101

Classification	IV _{CE01} (V)	II _{Cl} (mA)	USM SOT-323		UFM		S-Mini SOT-346					
			Part Number									
			NPN	PNP	NPN	PNP	NPN	PNP				
General purpose	30	500		2SA1588 #				2SA1182 #				
	50	150	2SC4116 #	2SA1586 #			2SC2712 #	2SA1162 #				
	50	500					2SC3325 #	2SA1313 #				
Low Noise	120	100	2SC4117 #	2SA1587 #			2SC2713 #	2SA1163 #				
							2SC3324	2SA1312				
Low saturation	15	800						2SA1362 #				
	600	50					2SC6105					
Muting	20	300	2SC4213				2SC3326 #					
	20	2500				2SA2215 #						
High current	25	800					2SC3265 #	2SA1298 #				
	50	1000			2SC6135 #							
	50	1700				2SA2195 #						
	50	2500			2SC6100 #							
High Breakdown	300	100						2SA1721				

Available conformable product to AEC-Q101

General-Purpose Transistors

Classification	V _{CE0} (V)	I _C (mA)	ESV SOT-563	USV SOT-353	SMV SOT-25			
			Part Number					
			PNP+NPN	NPNx2	PNPx2	NPNx2	PNPx2	PNP+NPN
General purpose	50	150	HN4B01JE 	2SC4944 	2SA1873 	2SC4207 	2SA1618 	
					HN4A56JU 			
Low Noise	120	100				HN4C06J 	HN4A06J 	HN4B06J
						HN4C51J 	HN4A51J 	
High current	25	800					HN4A08J 	

Classification	V _{CE0} (V)	I _C (mA)	ES6 SOT-563			US6 SOT-363			SM6 SOT-26			
			Part Number									
			NPNx2	PNPx2	PNP+NPN	NPNx2	PNPx2	PNP+NPN	NPNx2	PNPx2	PNP+NPN	
General purpose	50	150	HN1C01FE # 	HN1A01FE # 	HN1B04FE # 	HN1C01FU # 	HN1A01FU # 	HN1B01FU # 	HN1C01F 	HN1A01F 	HN1B01F 	
						HN2C01FU 	HN2A01FU 	HN1B04FU # 				
						HN3C56FU 		HN3B02FU 				
	50	500						HN1C07F 	HN1A07F 			
High Current	15	800							HN1A02F 			
Muting	20	300				HN1C03FU # 			HN1C03F 			

Available conformable product to AEC-Q101

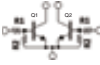
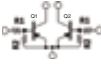



Bias Resistor Built-in Transistors (BRTs)






V _{CE0} (V)	I _{CE0} (mA)	NPN	PNP	VESM SOT-723		SSM SOT-416		USM SOT-323		S-Mini SOT-346		SOT23			
				Resistance		Part Number									
				R1 (k Ω)	R2 (k Ω)	NPN	PNP	NPN	PNP	NPN	PNP	NPN	PNP	NPN	PNP
50	100	4.7	4.7	RN1101MFV #	RN2101MFV #	RN1101 #	RN2101 #	RN1301 #	RN2301 #	RN1401 #	RN2401 #	TDTC143E	TDTA143E		
		10	10	RN1102MFV #	RN2102MFV #	RN1102 #	RN2102 #	RN1302 #	RN2302 #	RN1402 #	RN2402 #	TDTC114E	TDTA114E		
		22	22	RN1103MFV #	RN2103MFV #	RN1103 #	RN2103 #	RN1303 #	RN2303 #	RN1403 #	RN2403 #	TDTC124E	TDTA124E		
		47	47	RN1104MFV #	RN2104MFV #	RN1104 #	RN2104 #	RN1304 #	RN2304 #	RN1404 #	RN2404 #	TDTC144E	TDTA144E		
		2.2	47	RN1105MFV #	RN2105MFV #	RN1105 #	RN2105 #	RN1305 #	RN2305 #	RN1405 #	RN2405 #	TDTC123J	TDTA123J		
		4.7	47	RN1106MFV #	RN2106MFV #	RN1106 #	RN2106 #	RN1306 #	RN2306 #	RN1406 #	RN2406 #	TDTC143Z	TDTA143Z		
		10	47	RN1107MFV #	RN2107MFV #	RN1107 #	RN2107 #	RN1307 #	RN2307 #	RN1407 #	RN2407 #	TDTC114Y	TDTA114Y		
		22	47	RN1108MFV #	RN2108MFV #	RN1108 #	RN2108 #	RN1308 #	RN2308 #	RN1408 #	RN2408 #				
		47	22	RN1109MFV #	RN2109MFV #	RN1109 #	RN2109 #	RN1309 #	RN2309 #	RN1409 #	RN2409 #				
		4.7	∞	RN1110MFV #	RN2110MFV #	RN1110 #	RN2110 #	RN1310 #	RN2310 #	RN1410 #	RN2410 #				
		10	∞	RN1111MFV #	RN2111MFV #	RN1111 #	RN2111 #	RN1311 #	RN2311 #	RN1411 #	RN2411 #				
		22	∞	RN1112MFV #	RN2112MFV #	RN1112 #	RN2112 #	RN1312 #	RN2312 #	RN1412 #	RN2412 #				
		47	∞	RN1113MFV #	RN2113MFV #	RN1113 #	RN2113 #	RN1313 #	RN2313 #	RN1413 #	RN2413 #				
		1	10	RN1114MFV #	RN2114MFV #	RN1114 #	RN2114 #	RN1314 #	RN2314 #	RN1414 #	RN2414 #				
		2.2	10	RN1115MFV #	RN2115MFV #	RN1115 #	RN2115 #	RN1315 #	RN2315 #	RN1415 #	RN2415 #				
		4.7	10	RN1116MFV #	RN2116MFV #	RN1116 #	RN2116 #	RN1316 #	RN2316 #	RN1416 #	RN2416 #				
		10	4.7	RN1117MFV #	RN2117MFV #	RN1117 #	RN2117 #	RN1317 #	RN2317 #	RN1417 #	RN2417 #				
		47	10	RN1118MFV #	RN2118MFV #	RN1118 #		RN1318 #	RN2318 #	RN1418 #	RN2418 #				
		1	∞	RN1119MFV #	RN2119MFV #										
		100	100	RN1130MFV #	RN2130MFV #										
100	∞	RN1131MFV #	RN2131MFV #												
200	∞	RN1132MFV #	RN2132MFV #												

Available conformable product to AEC-Q101








V _{CE0} (V)	I _{CE0} (mA)	NPN	PNP	S-Mini SOT-346			
				Resistance		Part Number	
				R1 (k Ω)	R2 (k Ω)	NPN	PNP
50	800	1	1	RN1421	RN2421		
		2.2	2.2	RN1422	RN2422		
		4.7	4.7	RN1423	RN2423		
		10	10	RN1424	RN2424		
		0.47	10	RN1425	RN2425		
		1	10	RN1426	RN2426		
		2.2	10	RN1427	RN2427		

Bias Resistor Built-in Transistors (BRTs)

I _{Vccol} (V)	I _{Cl} (mA)	NPN	PNP	ESV SOT-563		USV SOT-363		SMV SOT-25	
									
		Common emitter	Common emitter	Part Number					
Resistance		Part Number							
R1 (kΩ)	R2 (kΩ)	NPNx2	PNPx2	PNPx2	PNPx2	PNPx2	PNPx2	PNPx2	
4.7	4.7	RN1701JE	RN2701JE	RN1701	RN2701	RN1501	RN2501		
10	10	RN1702JE	RN2702JE	RN1702	RN2702	RN1502	RN2502		
22	22	RN1703JE	RN2703JE	RN1703	RN2703	RN1503	RN2503		
47	47	RN1704JE	RN2704JE	RN1704	RN2704	RN1504	RN2504		
2.2	47	RN1705JE	RN2705JE	RN1705	RN2705	RN1505	RN2505		
4.7	47	RN1706JE	RN2706JE	RN1706	RN2706	RN1506	RN2506		
10	47	RN1707JE	RN2707JE	RN1707	RN2707	RN1507	RN2507		
22	47	RN1708JE	RN2708JE	RN1708	RN2708	RN1508			
47	22	RN1709JE	RN2709JE	RN1709	RN2709	RN1509			
4.7	∞	RN1710JE	RN2710JE	RN1710	RN2710	RN1510	RN2510		
10	∞	RN1711JE	RN2711JE	RN1711	RN2711	RN1511	RN2511		
22	∞		RN2712JE						
47	∞		RN2713JE						
1	10					RN2714			





I _{Vccol} (V)	I _{Cl} (mA)	ES6 SOT-563		NPNx2	PNPx2	PNP+NPN	PNP+PNP
							
		Resistance		Part Number			
R1 (kΩ)	R2 (kΩ)	NPNx2	PNPx2	PNP+NPN	PNP+PNP		
4.7	4.7	RN1901FE #	RN2901FE #	RN4901FE #	RN4981FE #		
10	10	RN1902FE #	RN2902FE #	RN4902FE #	RN4982FE #		
22	22	RN1903FE #	RN2903FE #	RN4903FE #	RN4983FE #		
47	47	RN1904FE #	RN2904FE #	RN4904FE #	RN4984FE #		
2.2	47	RN1905FE #	RN2905FE #	RN4905FE #	RN4985FE #		
4.7	47	RN1906FE #	RN2906FE #	RN4906FE #	RN4986FE #		
10	47	RN1907FE #	RN2907FE #	RN4907FE #	RN4987FE #		
22	47	RN1908FE #	RN2908FE #	RN4908FE #	RN4988FE #		
47	22	RN1909FE #	RN2909FE #	RN4909FE #	RN4989FE #		
4.7	∞	RN1910FE #	RN2910FE #	RN4910FE #	RN4990FE #		
10	∞	RN1911FE #	RN2911FE #	RN4911FE #	RN4991FE #		
2.2/22	47/47			RN49A1FE			

Available conformable product to AEC-Q101

I _{Vccol} (V)	I _{Cl} (mA)	US6 SOT-363		NPNx2	PNPx2	PNP+NPN	PNP+PNP	NPNx2	PNPx2
									
		Resistance		Part Number					
R1 (kΩ)	R2 (kΩ)	NPNx2	PNPx2	PNP+NPN	PNP+PNP	NPNx2	PNPx2		
4.7	4.7	RN1901 #	RN2901 #	RN4901 #	RN4981 #	RN1961	RN2961		
10	10	RN1902 #	RN2902 #	RN4902 #	RN4982 #	RN1962	RN2962		
22	22	RN1903 #	RN2903 #	RN4903 #	RN4983 #	RN1963	RN2963		
47	47	RN1904 #	RN2904 #	RN4904 #	RN4984 #	RN1964	RN2964		
2.2	47	RN1905 #	RN2905 #	RN4905 #	RN4985 #	RN1965	RN2965		
4.7	47	RN1906 #	RN2906 #	RN4906 #	RN4986 #				
10	47	RN1907 #	RN2907 #	RN4907 #	RN4987 #			RN2967	
22	47	RN1908 #	RN2908 #	RN4908 #	RN4988 #	RN1968			
47	22	RN1909 #	RN2909 #	RN4909 #	RN4989 #			RN2969	
4.7	∞	RN1910 #	RN2910 #	RN4910 #	RN4990 #	RN1970			
10	∞	RN1911 #	RN2911 #	RN4911 #	RN4991 #	RN1971	RN2971		
47	∞					RN1973			
2.2/22	47/47			RN49A1					
47/2.2	47/47				RN49A2				

Available conformable product to AEC-Q101

■ Bias Resistor Built-in Transistors (BRTs)

V _{CE0} (V)	I _C (mA)	SM6 SOI-26		NPNx2	PNP×2	PNP+NPN
						
				Point symmetrical	Point symmetrical	Point symmetrical
		Resistance		Part Number		
		R1 (kΩ)	R2 (kΩ)	NPNx2	PNP×2	PNP+NPN
50	100	4.7	4.7	RN1601	RN2601	RN4601
		10	10	RN1602	RN2602	RN4602
		22	22	RN1603	RN2603	RN4603
		47	47	RN1604	RN2604	RN4604
		2.2	47	RN1605	RN2605	RN4605
		4.7	47	RN1606	RN2606	RN4606
		10	47	RN1607	RN2607	RN4607
		22	47	RN1608	RN2608	RN4608
		47	22	RN1609		RN4609
		4.7	∞	RN1610	RN2610	RN4610
		10	∞	RN1611	RN2611	RN4611
		22	∞			RN4612
		22/10	22/10			RN46A1

3. Small Signal Diodes

Schottky Barrier Diodes (SBDs)

Features	Absolute Maximum Ratings		Electrical Characteristics (Ta=25°C)					SL2 (SOD-962)	CST2 (SOD-882)	SOD-923	CST2B	CST2C	ESC (SOD-523)	USC (SOD-323)	VESM (SOT-723)	SSM (SOT-416)						
	V _{RM} * (V)	I _O (A)	V _F			I _R max (uA)	C _T typ. (pF)	Bottom View	Bottom View		Bottom View	Bottom View										
			typ. (V)	max (V)	@I _F (A)			@I _F (V)														
High-V _R and IO	40	1.5	0.59	0.64	1.5	25	40	130														
		1.0	to 0.63	to 0.7	1.0	20	40	74														
	40*	0.5	0.74	0.81	0.5	15	40	28		CTS05F40												
		1.5	0.47	0.55	1.5	200	40	170					CCS15F40			CUS15F40						
		1.0	to 0.48	to 0.55	1.0	150	40	120								CUS10F40						
	30	0.5	0.56	0.6	0.5	50	40	42		CTS05S40							CUS05S40					
		1.0	0.43	0.5	1.0	50	30	170									CUS10F30					
		1.0	0.47	0.57	1.0	50	30	120														
		0.8	0.4	0.45	0.8	50	30	170									CUS08F30					
	30*	0.5	0.38	0.45	0.5	50	30	to 120			CBS05F30						CUS05F30					
1.5		0.39	-	1.5	500	30	200					CCS15S30				CUS15S30						
1.0		0.37	0.45	1.0	500	30	135			CBS10S30						CUS10S30						
0.5		0.41	0.47	0.5	300	30	55		CTS05S30							CUS05S30						
Standard	40	0.1	0.54	0.6	0.1	5	40	18														
			0.56	0.62	0.1	5	40	15		1SS417CT	1SS417					1SS423						
		0.5	0.38	0.47	0.5	100	20	-									CUS551V30					
	30	0.2	0.52	0.6	0.2	5	30	16 to 17									CES520	CUS520				
			0.45	0.5	0.2	30	30	25 to 26										CES521	CUS521			
			0.45	0.58	0.1	2	25	trr= 1.5ns @I _F = 10mA														
		0.1	0.38	0.5	0.1	50	30	15											1SS416CT	1SS416		
			0.51	0.62	0.1	0.7	30	8.2	DSR01S30SL													
			0.41	0.5	0.1	50	30	9.3	DSF01S30SL													
	20	0.3	0.38	0.45	0.3	50	20	46											1SS404			
0.2		0.36	0.42	0.2	50	20	46															
0.42		0.5	0.2	50	20	20												1SS424				
10	0.1	0.35	0.5	0.1	20	10	20															
Low-IR/High Speed	20	0.05	0.5	0.55	0.05	0.5	20	3.9														
	10	0.05	0.63	1	0.05	0.5	10	3.2														

1 MOSFET

2 T-/BRT

3 Diode

4 LDO/Load SW

5 Logic

6 Bus Switch

7 RF Devices

8 Package

	USM (SOT-323)	S-Mini (SOT-346)	SOT23	USQ (SOT-343)	SMQ (SOT-24)	ESV (SOT-553)	UFV (SOT-353)	US6 (SOT-363)	SM6 (SOT-26)	Electrical Characteristics (Ta=25°C)						Absolute Maximum Ratings		Features	
										VF		IR max (μ A)	CT typ. (pF)	VR/ VRM* (V)	IO (A)				
										typ. (V)	max (V)					@IF (A)	@VR (V)		
										0.5	0.55	1.0	25	40	130		1.5	High-VF and IO	
										to 0.63	to 0.7	1.0	20	40	74	40	1.0		
										0.74	0.81	0.5	15	40	28		0.5		
										0.47	0.55	1.5	200	40	170		1.5		
										to 0.48	to 0.55	1.0	150	40	120	40*	1.0		
										0.56	0.6	0.5	50	40	42		0.5		
										0.43	0.5	1.0	50	30	170		1.0		
										0.47	0.57	1.0	50	30	120	30	1.0		
										0.4	0.45	0.8	50	30	170		0.8		
										0.38	0.45	0.5	50	30	to 120		0.5		
										0.39	-	1.5	500	30	200		1.5		
										0.37	0.45	1.0	500	30	135	30*	1.0		
										0.41	0.47	0.5	300	30	55		0.5		
																11			Standard
										0.54	0.6	0.1	5	40		18	40		
										0.56	0.62	0.1	5	40	15				
										0.38	0.47	0.5	100	20	-		0.5		
										0.52	0.6	0.2	5	30	16 to 17				
										0.45	0.5	0.2	30	30	25 to 26				
										0.45	0.58	0.1	2	25		trr=1.5ns @IF=10mA	30		
										0.38	0.5	0.1	50	30	15				
										0.51	0.62	0.1	0.7	30	8.2		0.1		
										0.41	0.5	0.1	50	30	9.3				
										0.38	0.45	0.3	50	20	46		0.3		
																	20		
										0.36	0.42	0.2	50	20	46		0.2		
										0.42	0.5	0.2	50	20	20				
										0.35	0.5	0.1	20	10	20	10	0.1		
											0.5	0.55	0.05	0.5	20	3.9	20	0.05	
											0.63	1	0.05	0.5	10	3.2	10	0.05	

☆ New Products

① MOSFET

② Tr-/BRT

③ Diode

④ LDO/Load SW

⑤ Logic

⑥ Bus Switch

⑦ RF Devices

⑧ Package










































Low-R High Speed

Switching Diodes

Absolute Maximum Ratings		Electrical Characteristics (Ta=25°C)		CST2 SOD-882	SOD-923	ESC SOD-523	USC SOD-323	CST3 SOT-883	VESM SOT-723	SSM SOT-416	USM SOT-323	SOT23	
Vr (V)	Io (mA)	Ct typ. (pF)	trr typ. (ns)	Bottom View				Bottom View					
30	100	3	-										
80	80	0.5	1.6							1SS362 			
				0.3	1.6	1SS427							
		0.5	1.6	1SS387CT		1SS387 #	1SS352 #						
	100	0.9	1.6					1SS361CT 	1SS361FV # 	1SS361 # 	1SS301 # 		
									1SS362FV # 	1SS302A # 			
		2	-			1SS307E ☆ #							
		2.2	1.6										
								1SS360 # 	1SS300 # 				
	3.0	-											
	Q1/2=0.9 Q3/4=2.2	1.6											
100	215	0.9	1.6									TBAS16 ☆ 	
												TBAW56 ☆ 	
		150	0.9	4 (max)							BAV99W ☆ 		
		215	0.9	4 (max)								BAV70 ☆ 	
	215	0.9	3 (max)									BAV99 ☆ 	
	250	0.35	3 (max)			BAS516 ☆	BAS316 ☆						
200	100	1.5	10									1SS370 	
			30				1SS403 #						
400	100	2.5	0.5									1SS397 	

☆ New Products

Available conformable product to AEC-Q101

	S-Mini SOT-346	USQ SOT-343	SMQ SOT-24	ESV SOT-553	USV SOT-353	SMV SOT-25	ES6 SOT-563	US6 SOT-363	SM6 SOT-26	Electrical Characteristics (Ta=25°C)		Absolute Maximum Ratings	
										C _T typ. (pF)	t _{rr} typ. (ns)	V _R (V)	I _O (mA)
	1SS307 									3	-	30	100
								HN2D01FU # 	HN2D01F 	0.5	1.6	80	100
								HN2D02FU # 					
				HN2D01JE 					0.3	1.6			
									0.5	1.6			
	1SS184 # 				HN4D02JU 	1SS309 				0.9	1.6	80	100
	1SS226 # 						HN1D02FE 	HN1D02FU # 	HN1D02F 				
	1SS196 												
	1SS193 # 												
		1SS382 	1SS272 							2	-	80	100
	1SS190 # 				HN4D01JU 	1SS308 				2.2	1.6		
	1SS187 # 						HN1D01FE 	HN1D01FU # 	HN1D01F 				
	1SS181 # 												
	1SS379 # 									3.0	-	80	100
								HN1D03FU # 	HN1D03F 	Q1/2=0.9 Q3/4=2.2	1.6		
										0.9	1.6	100	215
										0.9	4 (max)	150	100
										0.9	4 (max)	215	100
										0.9	3 (max)	215	100
										0.35	3 (max)	250	100
	1SS250 									1.5	10	200	100
			1SS306 								30		
	1SS398 		1SS399 						HN2D03F 	2.5	0.5	400	100

Available conformable product to AEC-Q101

① MOSFET

② Tr-/BRT

③ Diode

④ LDO/Load SW












⑤ Logic

⑥ Bus Switch

⑦ RF Devices

⑧ Package















■ TVS Diodes (ESD protection Diodes)

Application	Absolute Maximum Ratings	Electrical Characteristics (Ta=25°C)				CL2 (SOD-992)	SL2 (SOD-962)	CST2 (SOD-882)	SOD-923	ESC (SOD-523)	USC (SOD-323)	VESM (SOT-723)	
						Bottom View	Bottom View	Bottom View					
													
VesD IEC61000-4-2 (kV)	Vrwm max (V)	Ct typ. (pF)	Rdyn typ. (Ω)										
USB3.1/ Thunderbolt/ RF antenna (NFC)	±20	3.6	0.2	0.5		DF2B5M4SL ☆	DF2B5M4CT ☆						
	±20	3.6	0.2	0.8	DF2B5M4CL ★								
	±20	5.5	0.2	0.5		DF2B6M4SL ☆	DF2B6M4CT ☆						
	±20	5.5	0.2	0.8	DF2B6M4CL ★								
	±20	3.6	0.35	0.3		DF2S5M4SL ☆%	DF2S5M4CT ☆%						
	±20	5.5	0.35	0.3		DF2S6M4SL ☆%	DF2S6M4CT ☆%						
	±15	18.5	0.2	0.2		DF2B20M4SL ☆							
	±12	5.5	0.1	0.7		DF2B7M3SL							
	±12	5.5	0.2	1	DF2B7M2CL								
	±12	5	0.2	1		DF2B7M2SL							
	±8	5	0.2	0.8									
USB2.0	±12	5	to 0.5	0.35		DF2S7MSL %		DF2S6.8MFS %					
	±8	5	0.5	-							DF3D6.8MFV #%		
	±10	5.5	1.5	0.25		DF2B6USL ☆							
	±8	5	1.6	0.3			DF2S6.8UCT %	DF2S6.8UFS %					
	±8	5	2.5(max)	-									
	±8	19	1.6	0.5			DF2S24UCT %						
	±30	5.5	8.5	0.2		DF2B7ASL ☆	DF2B7ACT ☆	DF2B7AFS ☆	DF2B7AE ☆	DF2B7AFU ☆			
	±30	5	9	0.3			DF2B6.8ACT	DF2B6.8AFS					
General-purpose/ Audio/ SIM card	±8	5	15	-					DF2B6.8E #				
	±30	12	9	0.8									
Auto motive's CAN/LIN	±25	24	9	1.1							DF2B18FU ☆#		
	±20	28	6.5	1.5							DF2B29FU ☆#		
	±20	28	6.5	1.5							DF2B36FU ☆#		

☆ New Products, ★ Under development (The specification is subject to change without notice.)

Available conformable product to AEC-Q101

% Uni-directional product

	SSM (SOT-416)	USM (SOT-323)	WCSP4	ES6 (SOT-563)	DFN5	DFN6	DFN10	Electrical Characteristics (Ta=25°C)			Absolute Maximum Ratings	Application
								V _{RWM} max (V)	C _T typ. (pF)	R _{dyn} typ. (Ω)		
												
												
					DF5G5M4N ★		DF10G5M4N ☆	3.6	0.2	0.5	±20	USB3.1/ Thunderbolt/ RF antenna (NFC)
						DF6D5M4N ★		3.6	0.2	0.8	±20	
					DF5G6M4N ★		DF10G6M4N ☆	5.5	0.2	0.5	±20	
						DF6D6M4N ★		5.5	0.2	0.8	±20	
								3.6	0.35	0.3	±20	
								5.5	0.35	0.3	±20	
								18.5	0.2	0.2	±15	
								5.5	0.1	0.7	±12	
					DF5G7M2N			5.5	0.2	1	±12	
								5	0.2	1	±12	
			DF4D7M2G					5	0.2	0.8	±8	USB2.0
								5	0.3	0.8	±12	
						DF6D7M1N		5	0.3	0.9	±8	
								8	0.3	2.5	±8	
								5	to 0.5	0.35	±12	
	DF3D6.8MS %							5	0.5	-	±8	
				DF6D6UFE ☆				5.5	1.5	0.25	±10	
								5	1.6	0.3	±8	
	DF3A6.8UFU %							5	2.5(max)	-	±8	
								19	1.6	0.5	±8	
								5.5	8.5	0.2	±30	General- purpose/ Audio/ SIM card
								5	9	0.3	±30	
								5	15	-	±8	Auto motive's CAN/LIN
		DF3D18FU ☆ #						12	9	0.8	±30	
		DF3D29FU ☆ #						24	9	1.1	±25	
		DF3D36FU ☆ #						28	6.5	1.5	±20	

☆ New Products, ★ Under development (The specification is subject to change without notice.)

Available conformable product to AEC-Q101

% Uni-directional product

TVS Diodes (ESD protection Diodes)

Application	Absolute Maximum Ratings	Electrical Characteristics (Ta=25°C)				SL2	CST2	SOD-923	USC
						(SOD-962)	(SOD-882)		(SOD-323)
					Bottom View	Bottom View			
Uni-directional General-purpose/ SIM card/ Power-supply	Vesd IEC61000-4-2 (kV)	Vz min (V)	Ct typ. (pF)	Zz max (Ω)					
	±30	4.8	45	70	DF2S5.1ASL		DF2S5.1FS		
	±30	5.3	40	30	DF2S5.6ASL	DF2S5.6CT	DF2S5.6FS		
	±30	5.8	32	30	DF2S6.2ASL	DF2S6.2CT	DF2S6.2FS		
	±30	6.4	25	30	DF2S6.8ASL	DF2S6.8CT	DF2S6.8FS		
	±30	7.7	20	30	DF2S8.2ASL	DF2S8.2CT	DF2S8.2FS		
	±30	9.4	16	30			DF2S10FS		
	±20	11.4	15	10 (typ.)				DF2S12FU	
	±20	11.4	15	25				DF2S12FS	
	±12	15.3	10	35		DF2S16CT	DF2S16FS		
	±12	18.8	9	to 55		DF2S20CT	DF2S20FS		
	±10	22.8	8.5	70			DF2S24FS		
	±8	28	7.2	75		DF2S30CT			
	±8	28	7	150			DF2S30FS		

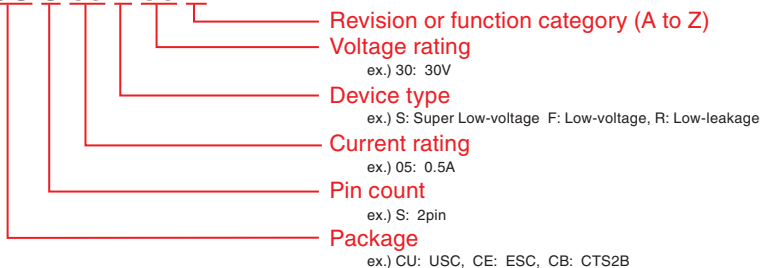
Application	Absolute Maximum Ratings	Electrical Characteristics (Ta=25°C)				CST3	VESM	USM	S-Mini	ESV	USV	SMV	US6
						(SOT-883)	(SOT-723)	(SOT-323)	(SOT-346)	(SOT-553)	(SOT-353)	(SOT-25)	(SOT-363)
					Bottom View								
Uni-directional General-purpose/ SIM card/ Power-supply	Vesd IEC61000-4-2 (kV)	Vz min (V)	Ct typ. (pF)	Zz max (Ω)									
	±8	5.3	8	50			DF3A5.6LFU		DF5A5.6LJE	DF5A5.6LFU			
	±8	5.3	8	3 (typ.)		DF3A5.6LFV #							
	±8	5.9	6.5	50		DF3A6.2LFV #	DF3A6.2LFU		DF5A6.2LJE	DF5A6.2LFU			
	±8	6.5	to 6	50	DF3A6.8LCT	DF3A6.8LFV #	DF3A6.8LFU		DF5A6.8LJE	DF5A6.8LFU	DF5A6.8LF		
	±15	3.4	52	130					DF5A3.6CJE	DF5A3.6CFU			
	±30	5.3	29	40					DF5A5.6CJE	DF5A5.6CFU			
	±30	5.8	25	30					DF5A6.2CJE	DF5A6.2CFU			
	±25	6.4	23	25					DF5A6.8CJE	DF5A6.8CFU			
	±30	3.1	115	130	DF3A3.3CT	DF3A3.3FV #	DF3A3.3FU		DF5A3.3JE	DF5A3.3FU	DF5A3.3F		
	±30	3.4	110	130	DF3A3.6CT	DF3A3.6FV #	DF3A3.6FU		DF5A3.6JE	DF5A3.6FU	DF5A3.6F		
	±30	5.3	65	40	DF3A5.6CT	DF3A5.6FV #	DF3A5.6FU	DF3A5.6F	DF5A5.6JE	DF5A5.6FU	DF5A5.6F		
	±30	5.8	55	30	DF3A6.2CT	DF3A6.2FV #	DF3A6.2FU	DF3A6.2F	DF5A6.2JE	DF5A6.2FU	DF5A6.2F		
	±30	6.4	45	25	DF3A6.8CT	DF3A6.8FV #	DF3A6.8FU	DF3A6.8F	DF5A6.8JE	DF5A6.8FU	DF5A6.8F	DF6A6.8FU	

Available conformable product to AEC-Q101

Part Naming Conventions

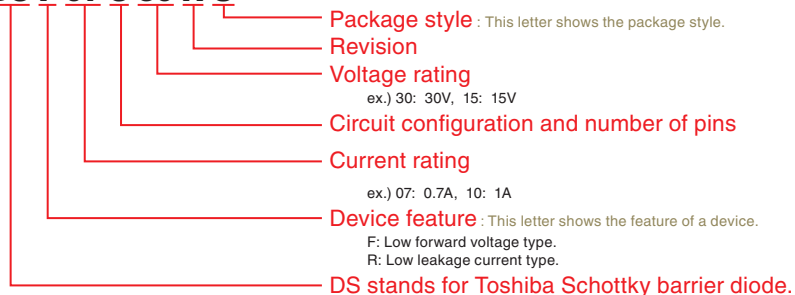
New Naming Conventions

CU S 05 F 30 A



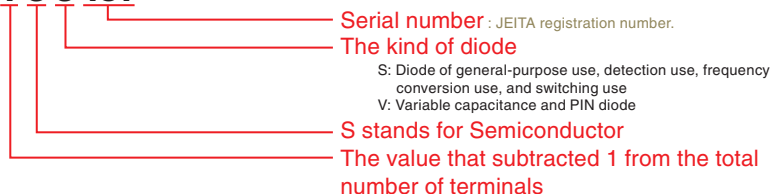
Old Naming Conventions

DS F 07 S 30 A U



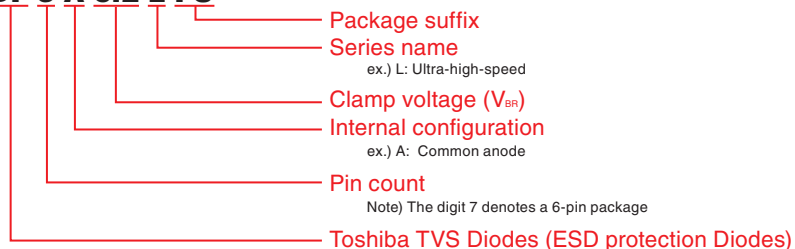
Diode (JEITA Registration Products)

1 S S 181



TVS Diodes (ESD protection Diodes) Naming Conventions

DF 5 A 6.2 L FU



4. Linear ICs

Low drop-out (LDO) Single-output regulators

WCSP4E	WCSP4	SDFN4	DFN4	DFN5B	ESV (SOT-553)	UFV (SOT-353)	SMV	WCSP6F
Bottom View	Bottom View	Bottom View	Bottom View	Bottom View	Bottom View	Bottom View	Bottom View	Bottom View

CMOS LDO regulators

Series Name / Part Number	Package	V _{OUT} (V)	V _{IN} (V)	I _{OUT} (mA)	I _B (μA)	Additional function				
						Over current protection	Auto discharge	Fast load Transient Response circuit	Thermal shutdown	Control pin connection
TCR2DGxx	WCSP4	1.2 to 3.6	2.0 to 5.5	200	45	O		O	O	Pull down
TCR2ENxx	SDFN4	1.0 to 3.6	1.5 to 5.5	200	35	O	O	O		Pull down
TCR2LNxx		0.8 to 3.6	1.5 to 5.5	200	1	O	O			Pull down
TCR2EExx	ESV	1.0 to 5.0	1.5 to 5.5	200	35	O	O	O		Pull down
TCR2LExx		0.8 to 3.6	1.5 to 5.5	200	1	O	O			Pull down
TCR2EFxx	SMV	1.0 to 5.0	1.5 to 5.5	200	35	O	O	O		Pull down
TCR2LFxx		0.8 to 3.6	1.5 to 5.5	200	1	O	O			Pull down
TCR3DGxx ☆	WCSP4E	1.0 to 4.5	1.75 to 5.5	300	65	O	O	O	O	Pull down
TCR3DMxx	DFN4	1.0 to 4.5	1.75 to 5.5	300	65	O	O	O	O	Pull down
TCR3DFxx	SMV	1.0 to 4.5	1.8 to 5.5	300	65	O	O	O	O	Pull down
TCR5AMxx ☆	DFN5B	0.55 to 3.6	V _{OUT} +0.1V to V _{BIAS}	500	38	O	O		O	Pull down
TCR13AGADJ ☆	WCSP6F	0.55 to 3.6 adjustable	V _{OUT} +0.1V to V _{BIAS}	1300	56	O	O		O	Pull down

☆ New products

Bipolar LDO regulators

Series Name	Package	V _{OUT} (V)	V _{IN} (V)	I _{OUT} (mA)	I _B (μA)	Additional function				
						Over current protection	Auto discharge	Fast load Transient Response circuit	Thermal shutdown	Control pin connection
TAR5SxxU	UFV	1.5 to 5.0	2.4 to 15	200	170	O			O	
TAR5Sxx	SMV	1.5 to 5.0	2.4 to 15	200	170	O			O	
TAR5SBxx						O			O	

Load Switch ICs

WCSP4D	WCSP4C	SMV	WCSP6C	WCSP6E	WCSP9	WCSP16C
						

Part Number	Package	Operating voltage range (V)	Output current (A)	Ron (1) typ. (mΩ)	Ron (2) typ. (mΩ)	Function						Note				
						Inrush current reduction (Slew Rate control)	Thermal shutdown	Over current protection	Auto discharge	Reverse current block	Control pin connection (Active Level)					
TCK106AG	WCSP4D		1	176 @1.1V, -0.2A	34 @5.0V, -0.5A	O			O		Pull down (H)					
TCK107AG						O			O		Pull down (H)					
TCK108AG						O			O		Open (L)					
TCK106AF ☆	SMV	1.1 to 5.5	1	223 @1.1V, -0.2A	63 @5.0V, -0.5A	O					Pull down (H)					
TCK107AF ☆						O			O		Pull down (H)					
TCK108AF ☆						O			O		Open (L)					
TCK111G	WCSP6C		3	8.5 @1.1V, -1.5A	8.3 @5.0V, -1.5A	O	O			True Reverse Current Blocking	Pull down (H)					
TCK112G						O	O		O		Pull down (H)					
TCK22921G ☆	WCSP6E	1.1 to 5.5	2	136 @1.1V, -0.5A	25 @5.0V, -0.5A	4.5μs			O	O	Pull down(H)					
TCK22922G ☆						666μs			O	O	Pull down(H)					
TCK22923G ☆						1364μs			O	O	Pull down(H)					
TCK22925G ☆						3380μs			O	O	Pull down(H)					
TCK22971G ☆						4.5μs					O		Pull down(H)			
TCK22972G ☆						666μs					O		Pull down(H)			
TCK22973G ☆						1364μs					O		Pull down(H)			
TCK22974G ☆						3380μs					O		Pull down(H)			
TCK22975G ☆						666μs					O		Open(L)			
TCK22910G ☆						WCSP6E	1.1 to 5.5	2	179 @1.1V, -0.15A	31 @5.0V, -0.15A	1400μs		O			True Reverse Current Blocking
TCK22911G ☆	1400μs	O		O	Open(L)											
TCK22912G ☆	1400μs	O		O	Pull down(H)											
TCK22913G ☆	1400μs	O		O	Pull down(H)											
TCK22946G ☆	WCSP6E	1.1 to 5.5	0.4	179 @1.1V, -0.15A	31 @5.0V, -0.15A	50μs	O	400mA	O	True Reverse Current Blocking	Pull down (H)					
TCK22951G ☆						0.74	50μs	O	740mA		O		Pull down (H)			
TCK2065G ☆		1.1	50μs			O	1110mA	O	Pull down (H)							
TCK1024G ☆		1.54	50μs			O	1540mA	O	Pull down (H)							
TCK22891G ☆		0.4	50μs			O	400mA	O	Pull down (H)							
TCK22892G ☆		0.74	50μs			O	740mA	O	Pull down (H)							
TCK22893G ☆		1.1	50μs			O	1110mA	O	Pull down (H)							
TCK22894G ☆		1.54	50μs			O	1540mA	O	Pull down (H)							
TCK206G		WCSP4C	0.75 to 3.6			2	18.4 @0.75V, -1.5A	18.1 @3.3V, -1.5A	O					O	Pull down (H)	
TCK207G									O					O	Pull down (H)	
TCK208G	O									O	Open (L)					

☆ New products

Power Multiplexer ICs

Part Number	Package	Operating voltage range (V)	Output current (A)	Ron (1) typ. (mΩ)	Ron (2) typ. (mΩ)	Function						Note
						Inrush current reduction	Thermal shutdown	Over voltage Lockout	Auto discharge	Reverse current block	Control pin connection	
TCK301G	WCSP9	2.3 to 28V	3	73 @4.5V, -1.0A	140mΩ max. @4.5V, -1.0A	O	O	6.6V		O	Single input Single output	
TCK302G						O	O	10.5V		O		
TCK303G						O	O	15.5V		O		
TCK304G						O	O	6.6V		O		
TCK305G						O	O	10.5V		O		
TCK321G	WCSP16C	2.3 to 36V	2	98 @4.5V, -1.0A	170mΩ max. @4.5V, -1.0A	O	O	VINA=VNB=12V		O	Dual input Single output	
TCK322G						O	O	VNA=VNB=15V		O		
TCK323G						O	O	VNA=VNB=15V		O		

OP Amp, Comparator and Magnetic sensor



OP Amp

	Package \ Type	Bi-polar		CMOS				
		Standard	Low noise Wide band	Low voltage operation	Standard	Low I _{DD}	Low noise	
Single	USV			TC75S51FU	TC75S54FU	TC75S55FU		
	UFV						TC75S63TU	
	SMV	TA75S01F	TA75S58F	TC75S51F	TC75S54F	TC75S55F		
Dual	US8			TC75W51FK	TC75W54FK	TC75W55FK		
	SM8	TA75W01FU	TA75W58FU	TC75W51FU	TC75W54FU	TC75W55FU		
Maximum rating	V _{CC} , V _{EE} / V _{DD} , V _{SS}	±6 or 12V	±18V	7.0V	7.0V	7.0V	6.0V	
Electrical characteristics	I _{CC} / I _{DD}	to 1.2mA	to 6.0mA	to 400µA	to 400µA	to 40µA	to 650µA	
	I _{sink}	20mA	40mA	700µA	700µA	450µA	1.5mA (min)	
	G _v	100dB	100dB	70dB	70dB	70dB	100dB	
	V _{NI}		2.5µV _{rms}				7.8nV/√Hz	
	Slew rate		1.0V/µs	1.0V/µs	0.5V/µs	0.7V/µs	0.08V/µs	1.0V/µs
	f _t	0.3MHz	3.0MHz	0.6MHz	0.9MHz	0.9MHz	0.16MHz	3.5MHz

Comparator

	Package \ Type	Bi-polar	CMOS				
		Standard	Push pull			Open Drain	
			Full-range input	Low I _{DD}	High speed	Low I _{DD}	High speed
Single	MP6C		TC75S70L6X				
	USV			TC75S56FU	TC75S57FU	TC75S58FU	TC75S59FU
	SMV	TA75S393F		TC75S56F	TC75S57F	TC75S58F	TC75S59F
Dual	US8			TC75W56FK	TC75W57FK	TC75W58FK	TC75W59FK
	SM8	TA75W393FU		TC75W56FU	TC75W57FU	TC75W58FU	TC75W59FU
Maximum rating	V _{CC} , V _{EE} / V _{DD} , V _{SS}	±18 or 36V	±3 or 6V	±3.5 or 7V	±3.5 or 7V	±3.5 or 7V	±3.5 or 7V
Electrical characteristics	I _{CC} / I _{DD}	to 2mA	to 35µA	to 44µA	to 440µA	to 44µA	to 440µA
	I _{sink}	16mA	18mA	25mA	25mA	25mA	25mA
	G _v	200V/mV		94dB	94dB	94dB	94dB
	t _{rsp} , t _{PLH}	1.3µs	400ns	680ns	140ns	800ns	200ns

Magnetic Sensor

		TCS40DPR	TCS40DLR
		Push pull	Open drain
Package		SOT-23F	
Detective polarity		S&N	
Electrical characteristics	Supply voltage	2.3 to 5.5 V	
	Magnetic Flux Density	Operating Point (V _{CC} = 2.3to3.6 V)	B _{ON} = 3.4 mT (typ.)
		Releasing Point (V _{CC} = 2.3to3.6 V)	B _{OFF} = 2.0 mT (typ.)
		Hysteresis (V _{CC} = 2.3to5.0 V)	B _H = 1.4 mT (typ.)
	Supply Current *	Average Current (V _{CC} = 2.3V)	7.3 µA (typ.)
	Operating Frequency (V _{CC} = 2.3to5.0 V)	25Hz(typ.)	

* Supply current is pulsed periodically by internal circuit.

5. Logic Devices

■ One-Gate Logic (LMOS)

VHS series

General Specification	
Supply voltage range	: 2.0V to 5.5V
Output current	: ± 8mA (@ V _{CC} =4.5V)
Propagation delay time	: 3.7nsec typ. (@ V _{CC} =5.0V)
Quiescent supply current	: 2µA max (@V _{CC} =5.5V, T _a =25°C)



Function		Part Number						
		Single-gate				Multi-gate		
		USV		SMV		US8	SM8	
		-	TTL Input	-	TTL Input			
Gates/ Buffers	NAND	TC7SH00FU #	TC7SET00FU #	TC7SH00F	TC7SET00F	TC7WH00FK #	TC7WH00FU	
	AND		TC7SH08FU #	TC7SET08FU #	TC7SH08F	TC7SET08F	TC7WH08FK #	TC7WH08FU
		Open-drain	TC7SH09FU #		TC7SH09F			
	NOR	TC7SH02FU #	TC7SET02FU #	TC7SH02F	TC7SET02F	TC7WH02FK #	TC7WH02FU	
	OR	TC7SH32FU #	TC7SET32FU #	TC7SH32F	TC7SET32F	TC7WH32FK #	TC7WH32FU	
	Exclusive-OR	TC7SH86FU #		TC7SH86F				
	Inverter		TC7SH04FU #	TC7SET04FU #	TC7SH04F	TC7SET04F	TC7WH04FK #	TC7WH04FU
		Unbuffered	TC7SHU04FU #		TC7SHU04F		TC7WHU04FK #	TC7WHU04FU
		Schmitt	TC7SH14FU #	TC7SET14FU #	TC7SH14F	TC7SET14F	TC7WH14FK #	TC7WH14FU
	Buffers	Schmitt	TC7SH17FU #	TC7SET17FU #	TC7SH17F	TC7SET17F	TC7WH17FK #	TC7WH17FU
	Non-Inverter		TC7SH34FU #	TC7SET34FU #	TC7SH34F	TC7SET34F	TC7WH34FK #	TC7WH34FU
		3-state						
3-state	Buffers	TC7SH125FU #	TC7SET125FU #	TC7SH125F	TC7SET125F	TC7WH125FK #	TC7WH125FU	
		TC7SH126FU #	TC7SET126FU #	TC7SH126F	TC7SET126F	TC7WH126FK #	TC7WH126FU	
D-Type Flip-Flop	Preset and Clear					TC7WH174FK #	TC7WH174FU	
Multiplexers	Digital					TC7WH157FK #	TC7WH157FU	

Available conformable product to AEC-Q100 (Grade 1)

SHS series




General Specification	
Supply voltage range	: 1.65V to 5.5V 1.8V to 5.5V
Output current	: ± 24mA (@ V _{CC} =3.0V)
Propagation delay time	: 2.4nsec typ. (@ V _{CC} =3.3V)
Quiescent supply current	: 1µA max (@V _{CC} =5.5V, T _a =25°C)



Function		Part Number							
		Single-gate				Multi-gate			
		Package	ISV	ESV	USV	SMV	US6	US8	SM8
Gates/ Buffers	NAND	TC7SZ00AFS	TC7SZ00FE	TC7SZ00FU #	TC7SZ00F		TC7WZ00FK #	TC7WZ00FU	
	AND	TC7SZ08AFS	TC7SZ08FE	TC7SZ08FU #	TC7SZ08F		TC7WZ08FK #	TC7WZ08FU	
	NOR	TC7SZ02AFS	TC7SZ02FE	TC7SZ02FU #	TC7SZ02F		TC7WZ02FK #	TC7WZ02FU	
	OR	TC7SZ32AFS	TC7SZ32FE	TC7SZ32FU #	TC7SZ32F		TC7WZ32FK #	TC7WZ32FU	
	Exclusive-OR	TC7SZ86AFS	TC7SZ86FE	TC7SZ86FU #	TC7SZ86F		TC7WZ86FK #	TC7WZ86FU	
	Inverter		TC7SZ04AFS	TC7SZ04FE	TC7SZ04FU #	TC7SZ04F	TC7PZ04FU	TC7WZ04FK #	TC7WZ04FU
		Unbuffered	TC7SZU04AFS	TC7SZU04FE	TC7SZU04FU #	TC7SZU04F		TC7WZU04FK #	TC7WZU04FU
		Open-drain	TC7SZ05AFS	TC7SZ05FE	TC7SZ05FU #	TC7SZ05F	TC7PZ05FU	TC7WZ05FK #	TC7WZ05FU
		Schmitt	TC7SZ14AFS	TC7SZ14FE	TC7SZ14FU #	TC7SZ14F	TC7PZ14FU	TC7WZ14FK #	TC7WZ14FU
	Buffers	Open-drain	TC7SZ07AFS	TC7SZ07FE	TC7SZ07FU #	TC7SZ07F	TC7PZ07FU	TC7WZ07FK #	TC7WZ07FU
		Schmitt	TC7SZ17AFS	TC7SZ17FE	TC7SZ17FU #	TC7SZ17F	TC7PZ17FU	TC7WZ17FK #	TC7WZ17FU
	Non-Inverter		TC7SZ34AFS	TC7SZ34FE	TC7SZ34FU #	TC7SZ34F	TC7PZ34FU	TC7WZ34FK #	TC7WZ34FU
		3-state							
3-state	Buffers	TC7SZ125AFS	TC7SZ125FE	TC7SZ125FU #	TC7SZ125F		TC7WZ125FK #	TC7WZ125FU	
		TC7SZ126AFS	TC7SZ126FE	TC7SZ126FU #	TC7SZ126F		TC7WZ126FK #	TC7WZ126FU	
D-Type Flip-Flop	Preset and Clear						TC7WZ74FK #	TC7WZ74FU	

Available conformable product to AEC-Q100 (Grade 1)

Standard Logic 74VHC Series, 74LCX Series (TSSOP14B/16B/20B Package products)

		TSSOP14B	TSSOP16B	TSSOP20B	Features						
					<ul style="list-style-type: none"> AEC-Q100 conform Operating temperature: Available -40 to 125°C products Compatible standard TSSOP package 						
Series name					VHC	VHCT (TTL Input)	VHCV (Schmitt Input)	VHC9 (Schmitt Input)	LCX		
Characteristics and Features		Supply voltage range			2.0 to 5.5V	4.5 to 5.5V	1.8 to 5.5V	2.0 to 5.5V 4.5 to 5.5V (VHCT)	1.65V to 3.6V to 5.5V (05 and 07)		
		Output current @V _{CC} =4.5V			±8mA		±16mA	±8mA	±24mA		
		Power down protection on inputs			Yes					Yes	
		Power down protection on outputs			No	Yes			Yes		
Function		Pin			No	Yes		Yes			
Gate/Buffer	NAND	Quad		14	74VHC00FT #	74VHCT00AFT #			74LCX00FT #		
			Dual 4-input	14	74VHC20FT #						
			Open-drain	14	74VHC03FT #						
			Schmitt	14	74VHC132FT #						
	AND	Quad		14	74VHC08FT #	74VHCT08AFT #			74LCX08FT #		
			Dual 4-input	14	74VHC21FT #						
	NOR	Quad		14	74VHC02FT #				74LCX02FT #		
			Dual 4-input	14	74VHC27FT #						
	OR	Quad		14	74VHC32FT #	74VHCT32AFT #			74LCX32FT #		
	Exclusive-OR	Quad		14	74VHC86FT #				74LCX86FT #		
	Inverter	Hex		14	74VHC04FT #	74VHCT04AFT #			74LCX04FT #		
			Open-drain	14	74VHC05FT #		74VHCV05FT #		74LCX05FT #		
			Schmitt	14	74VHC14FT #	74VHCT14AFT #	74VHCV14FT #		74LCX14FT #		
				20				74VHCV152FT #			
	Buffer	Hex		14			74VHCV17FT #				
			Open-drain	14			74VHCV07FT #		74LCX07FT #		
				20							
	3-state	Quad	Non-inverted		14	74VHC125FT #	74VHCT125AFT #			74LCX125FT #	
					14	74VHC126FT #	74VHCT126AFT #			74LCX126FT #	
		5-Bit Universal Schmitt Buffer				14				74VHC9125FT # 74VHCT9125AFT #	
						14				74VHC9126FT # 74VHCT9126AFT #	
						20	74VHC240FT #	74VHCT240AFT #	74VHCV240FT #		74LCX240FT \$
						20	74VHC540FT #	74VHCT540AFT #	74VHCV540FT #		74LCX540FT \$
			Octal	Inverted		20	74VHC244FT #	74VHCT244AFT #	74VHCV244FT #		74LCX244FT #
						20	74VHC541FT #	74VHCT541AFT #	74VHCV541FT #		74LCX541FT \$
	Non-inverted					20					
						20					
Universal Buffer				20				74VHC9541FT # 74VHCT9541AFT #			
				20							
Transceiver	Octal			20	74VHC245FT #	74VHCT245AFT #	74VHCV245FT #		74LCX245FT \$		
				20							
Flip-Flop	Dual			14	74VHC74FT #				74LCX74FT #		
				16	74VHC174FT #						
				20	74VHC273FT #			74VHC9273FT # 74VHCT9273FT #	74LCX273FT #		
	3-state	Octal			20	74VHC374FT #		74VHCV374FT #		74LCX374FT \$	
				20	74VHC574FT #	74VHCT574AFT #	74VHCV574FT #		74LCX574FT \$		
Latch	3-state	Octal		20	74VHC373FT #		74VHCV373FT #		74LCX373FT \$		
				20	74VHC573FT #	74VHCT573AFT #	74VHCV573FT #		74LCX573FT \$		
				16	74VHC123AFT #						
Multivibrator	Dual			16	74VHC221AFT #						
				16	74VHC221AFT #						
Decoder	3 to 8 line	Single		16	74VHC138FT #	74VHCT138AFT #			74LCX138FT #		
				16	74VHC238FT #						
				16	74VHC139FT #						
Register	Shift		S-in/P-out	14	74VHC164FT #						
			S-in/P-out, P-in/S-out	16				74VHC9164FT #			
			P-in/S-out	16	74VHC165FT #						
			3-state	16	74VHC595FT #			74VHC9595FT #			
Counter	Binary	Single 4bit with	Async. Clear	16	74VHC161FT #						
			Sync. Clear	16	74VHC163FT #						
		Dual 4bit	14	74VHC393FT #							
		Single	14-stage	16	74VHC4020FT #						
			12-stage	16	74VHC4040FT #						
Multiplexer	Digital		Dual-4ch.	16	74VHC153FT #						
			Quad-2ch	16	74VHC157FT #			74LCX157FT #			
			Quad-2ch	20				74LCX257FT #			
	Analog		Single-8ch.	16	74VHC4051AFT #						
			Dual-4ch.	16	74VHC4052AFT #						
			Triple-2ch.	16	74VHC4053AFT #						
				14	74VHC4066AFT #						
Other	Analog switch	Quad	14	74VHC4066AFT #							

Available conformable product to AEC-Q100 (Grade 1)

\$ AEC-Q100 (Grade3) conform, operation temperature is -40 to 85degC

Standard Logic 74VHC Series, 74LCX Series (VSSOP14/16/20 Package products)



Features
• Small mounting area and thin package

Series name				VHC	VHCT (TTL Input)	VHCV (Schmitt Input)	VHC9 (Schmitt Input)	LCX		
Characteristics and Features	Supply voltage range			2.0 to 5.5V	4.5 to 5.5V	1.8 to 5.5V	2.0 to 5.5V (Schmitt Input)	1.65V to 3.6V to 5.5V (05 and 07)		
	Output current @V _{CC} =4.5V			±8mA		±16mA	±8mA	±24mA		
	Power down protection on inputs					Yes		Yes		
	Power down protection on outputs			No		Yes		Yes		
Function				Pin						
Gate/ Buffer	NAND	Quad		14	TC74VHC00FK	TC74VHCT00AFK			TC74LCX00FK	
			Dual 4-input	14	TC74VHC20FK					
			Open-drain	14	TC74VHC03FK					
			Schmitt	14	TC74VHC132FK					
	AND	Quad		14	TC74VHC08FK	TC74VHCT08AFK			TC74LCX08FK	
			Dual 4-input	14	TC74VHC21FK					
	NOR	Quad		14	TC74VHC02FK				TC74LCX02FK	
			Dual 4-input	14	TC74VHC27FK					
	OR	Quad		14	TC74VHC32FK	TC74VHCT32AFK			TC74LCX32FK	
			Exclusive-OR	14	TC74VHC86FK				TC74LCX86FK	
	Inverter	Hex		14	TC74VHC04FK	TC74VHCT04AFK			TC74LCX04FK	
			Open-drain	14	TC74VHC05FK		TC74VHCV05FK		TC74LCX05FK	
			Schmitt	14	TC74VHC14FK	TC74VHCT14AFK	TC74VHCV14FK		TC74LCX14FK	
			9-bit	20				TC74VHC9152FK		
	Buffer	Hex		14			TC74VHCV17FK			
			Open-drain	14			TC74VHCV07FK		TC74LCX07FK	
			9-bit	20				TC74VHC9151FK		
	3-state	Quad	Non-inverted	14	14	TC74VHC125FK	TC74VHCT125AFK			TC74LCX125FK
				14	14	TC74VHC126FK	TC74VHCT126AFK			TC74LCX126FK
		5-Bit Universal Schmitt Buffer			14				TC74VHC9125AFK	
					14				TC74VHC9126AFK	
					14				TC74VHC9125AFK	
		Octal	Inverted		20	TC74VHC240FK	TC74VHCT240AFK	TC74VHCV240FK		TC74LCX240FK
					20	TC74VHC540FK	TC74VHCT540AFK	TC74VHCV540FK		TC74LCX240FK
				20	TC74VHC244FK	TC74VHCT244AFK	TC74VHCV244FK		TC74LCX244FK	
				20	TC74VHC541FK	TC74VHCT541AFK	TC74VHCV541FK		TC74LCX244FK	
Universal Schmitt Buffer				20				TC74VHC9541FK		
			20				TC74VHCT9541AFK			
Transceiver	Octal		20	TC74VHC245FK	TC74VHCT245AFK	TC74VHCV245FK		TC74LCX245FK		
			14	TC74VHC74FK				TC74LCX74FK		
			16	TC74VHC174FK						
			20	TC74VHC273FK			TC74VHC9273FK	TC74LCX273FK		
3-state	Octal		20	TC74VHC374FK		TC74VHCV374FK		TC74LCX374FK		
			20	TC74VHC574FK	TC74VHCT574AFK	TC74VHCV574FK		TC74LCX574FK		
Latch	3-state	Octal		20	TC74VHC373FK		TC74VHCV373FK		TC74LCX373FK	
				20	TC74VHC573FK	TC74VHCT573AFK	TC74VHCV573FK		TC74LCX573FK	
Multivibrator	Dual		16	TC74VHC123AFK						
			16	TC74VHC221AFK						
Decoder	3 to 8 line	Single		16	TC74VHC138FK	TC74VHCT138AFK			TC74LCX138FK	
				16	TC74VHC238FK					
				16	TC74VHC139FK					
Register	2 to 4 line	Dual		14	TC74VHC164FK					
			S-in/P-out	14						
			S-in/P-out, P-in/S-out	16				TC74VHC9164FK		
			P-in/S-out	16	TC74VHC165FK					
Counter	Binary	3-state		16	TC74VHC595FK			TC74VHC9595FK		
				16	TC74VHC161FK					
		Single	Async. Clear	16	TC74VHC163FK					
			Sync. Clear	16	TC74VHC163FK					
			4bit	14	TC74VHC393FK					
Multiplexer	Digital	Dual-4ch.	14-stage	16	TC74VHC4020FK					
			12-stage	16	TC74VHC4040FK					
				16	TC74VHC153FK					
Analog	Dual-2ch.		16	TC74VHC157FK				TC74LCX157FK		
			16	TC74VHC4051AFK				TC74LCX257FK		
		Single-8ch.	16	TC74VHC4052AFK						
		Dual-4ch.	16	TC74VHC4053AFK						
Other	Analog switch	Quad	Triple-2ch.	16	TC74VHC4053AFK					
				14	TC74VHC4066AFK					

■ Standard Logic 74HC Series, TC4000B Series (SOIC14/16/20, EIAJ SOP14/16/20 Package products)



Series name			SOIC package			EIAJ SOP package					
			HC	HCT (TTL Input)	HC	HCT (TTL Input)	Standard series				
Characteristics and Features	Supply voltage range		2.0 to 6.0V	4.5 to 5.5V	2.0 to 6.0V	4.5 to 5.5V	3V to 18V				
	Output current @VCC=4.5V		±4/6mA	±4/6mA	±4/6mA	±4/6mA	±24mA				
	Power down protection on inputs			No		No	No				
	Power down protection on outputs			No		No	No				
Function			Pin								
Gate/Buffer	NAND	Quad	14	74HC00D	74HCT00D	TC74HC00AF		TC4011BF			
			Dual 4-input	14			TC74HC20AF				
			Open-drain	14	74HC03D						
			Schmitt	14	74HC132D		TC74HC132AF		TC4093BF		
	AND	Quad	Dual 4-input	14	74HC08D	74HCT08D	TC74HC08AF		TC4081BF		
				14	74HC21D		TC74HC21AF				
	NOR	Quad		14	74HC02D	74HCT02D	TC74HC02AF		TC4001BF		
				14	74HC32D	74HCT32D	TC74HC32AF		TC4071BF		
	Exclusive-OR	Quad		14	74HC86D				TC4030BF		
			Inverter		14	74HC04D	74HCT04D	TC74HC04AF	TC74HCT04AF	TC4069UBF	
		16		74HC4049D		TC74HC4049AF		TC4049BF			
	Unbuffer	14		74HCU04D		TC74HCU04AF					
	Open-drain	14		74HC05D		TC74HC05AF					
	Buffer	Hex		14	74HC14D	74HCT14D	TC74HC14AF		TC4584BF		
				16	74HC4050D		TC74HC4050AF		TC4050BF		
		3-state	Quad	Open-drain	14			TC74HC07AF			
				Non-inverted	14	74HC125D		TC74HC125AF			
			Hex	Universal		14	74HC126D		TC74HC126AF		
						14			TC74HC386AF		
		Octal	Inverted		20	74HC240D	74HCT240D	TC74HC240AF	TC74HCT240AF		
					20	74HC540D	74HCT540D	TC74HC540AF	TC74HCT540AF		
					20			TC74HC7240AF			
			Non-inverted		20	74HC244D	74HCT244D	TC74HC244AF	TC74HCT244AF		
				20			TC74HC7244AF				
	20			74HC541D	74HCT541D	TC74HC541AF	TC74HCT541AF				
Transceiver	Octal	Inverted	20	74HC245D	74HCT245D	TC74HC245AF					
		Non-inverted	14	74HC74D		TC74HC74AF		TC4013BF			
Flip-Flop	Dual	Hex	16	74HC174D		TC74HC175AF					
				20	74HC273D		TC74HC273AF				
				20	74HC374D		TC74HC374AF				
	3-state	Octal		20	74HC574D		TC74HC574AF				
				16	74HC259D		TC74HC373AF				
				20	74HC573D		TC74HC573AF				
Latch	3-state	Octal		16	74HC139D		TC74HC123AF				
				16	74HC4538D		TC74HC423AF		TC4538BF		
				16	74HC4538D		TC74HC4538AF				
Decoder	3 to 8 line	Single		16			TC74HC42AF				
				16	74HC138D		TC74HC138AF				
				16	74HC238D						
	3 to 8 line / Latch	Dual		16	74HC237D						
				16	74HC139D						
				16					TC4511BF		
Register	Shift	BCD-to-Seven Segment Latch/Decoder/Driver		16							
			S-in/P-out	14	74HC164D						
			P-in/S-out	16	74HC165D		TC74HC165AF		TC4021BF		
			P-in/S-out with Clear	16	74HC165D						
			8-Bit with Output Register	16	74HC594D						
			8-Bit / Latch (3-state)	16	74HC595D		TC74HC595AF				
			8-Stage Shift-and-Store	16					TC4094BF		
				16							
Counter	Binary	Dual	4bit	14	74HC393D						
			14-stage		16			TC74HC4020AF		TC4020BF	
					16			TC74HC4040AF		TC4040BF	
			Single 14-Stage/Oscillator	16			TC74HC4060AF				
			Single Decade Counter/Divider	16					TC4017BF		
	Dual Binary Up Counter	16					TC4520BF				
	Analog	Digital	Programmable Divider/Timer		16			TC74HC7292AF			
				Single-8ch.	16	74HC151D		TC74HC151AF			
				Single-8ch. 3-state	16			TC74HC251AF			
				Dual-4ch.	16	74HC153D		TC74HC153AF			
Dual-4ch. 3-state				16			TC74HC253AF				
Quad-2ch.	16	74HC157D		TC74HC157AF							
Analog	Single-8ch.		16	74HC4051D	74HCT4051D	TC74HC4051AF		TC4051BF			
			16	74HC4052D	74HCT4052D	TC74HC4052AF		TC4052BF			
			16	74HC4053D	74HCT4053D	TC74HC4053AF	TC74HCT4053AF	TC4053BF			
Other	Analog switch	Quad		14	74HC4066D		TC74HC4066AF		TC4066BF		

MOSFET

T/T/BRT

Diode

LDO/Load SW

Logic

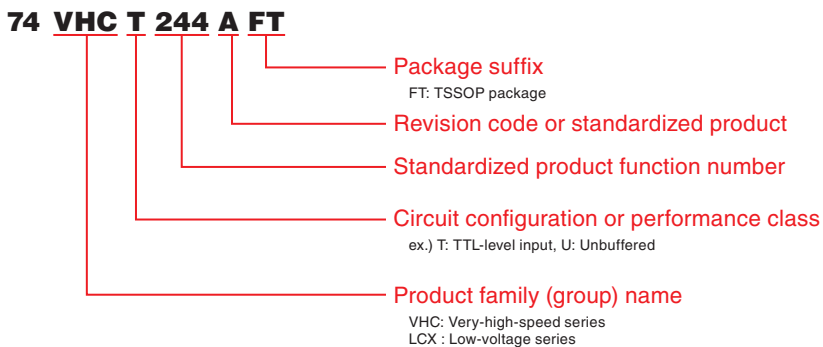
Bus Switch

RF Devices

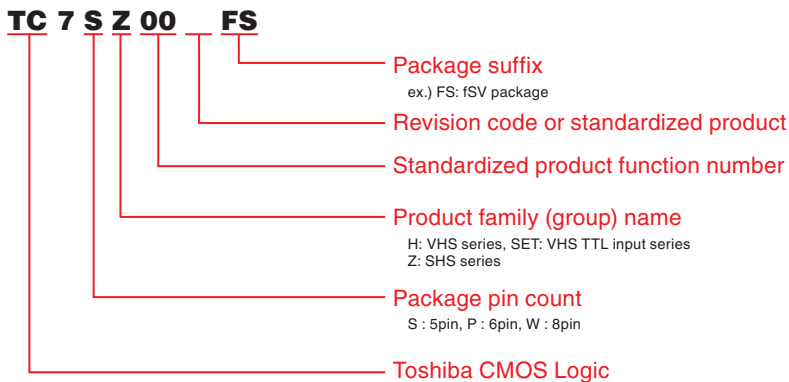
Package

Part Naming Conventions

Standard logic



One-gate logic






6. Bus Switches

High-Speed Transmission Type

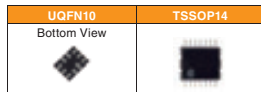
High-Speed Transmission Type






Recommended application	Part Number	Package	Number of lane	Specification			Pin Assignment 	Switch function
				Supply voltage range	Band width @ -3dB (typ.)	Quiescent supply current (max)		
PCI-ex 3.0, USB3.0 and others	TC7PCI3212MT	TQFN20	1lane	3.0 to 3.6V	11.5 GHz @Vcc=3.3V	500 μ A @Vcc=3.6V		SPDT
	TC7PCI3215MT							
	TC7USB3212WBG ☆	WCSP20	1lane	1.65 to 1.95V	8 GHz @Vcc=1.8V	200 μ A @Vcc=1.95V		

☆ New Products

for USB2.0 and others



Recommended application	Part Number	Package	Number of circuit	Specification			Pin Assignment 	Switch function
				Supply voltage range	Band width @ -3dB (typ.)	Quiescent supply current (max)		
USB2.0, MHL and others	TC7USB40MU	UQFN10	2	2.3 to 4.3V	1.5 GHz @Vcc=3.3V	1 μ A @Vcc=4.3V		SPDT
	TC7USB42MU							
	TC7USB40FT	TSSOP14						
	TC7USB42FT							

General Purpose Bus Switches

USV SOT-353	MP6B	US6 SOT-363	US8 SOT-765	TSSOP14	TSSOP16	TSSOP20
	Bottom View 					

5-voltage Bus Switch

Switch function	Part Number	Package	Number of circuit	Switch type	Specification			
					Supply voltage range	Switch I/O Capacitance @ Switch OFF (typ.)	Switch ON Resistance @ VCC=4.5V, VIS=0V (typ.)	Quiescent supply current (max)
SPST	TC7SB66CFU	USV	1	Pch+Nch	1.65 to 5.5V	5 pF @ VCC=5V	4 Ω @ IIS=30mA	10 μA @ VCC=5.5V
	TC7SB67CFU							
	TC7WB66CFK	US8	2					
TC7WB67CFK								
SPDT	TC7SB3157CFU	US6	1	Pch+Nch	1.65 to 5.5V	5 pF @ VCC=5V	4 Ω @ IIS=30mA	10 μA @ VCC=5.5V
	TC7SB3157DL6X	MP6B						

Low-voltage Bus Switch

Switch function	Part Number	Package	Number of circuit	Switch type	Specification			
					Supply voltage range	Switch I/O Capacitance	Switch ON Resistance @ VCC=3V, VIS=0V (typ.)	Quiescent supply current
SPST	TC7SBL66CFU	USV	1	Pch+Nch	1.65 to 3.6V	3.5 pF @ VCC=3V	5.5 Ω @ IIS=30mA	10 μA @ VCC=3.6V
	TC7SBL384CFU							
	TC7WBL3305CFK	US8	2					
	TC7WBL3306CFK							
	TC7MBL3125CFT	TSSOP14	4					
TC7MBL3126CFT	TSSOP20	8						
TC7MBL3245CFT	TSSOP16	4						
SPDT	TC7MBL3257CFT	TSSOP16	4	Pch+Nch	1.65 to 3.6V	5 pF @ VCC=3V, A-port	8.5 Ω @ IIS=30mA	10 μA @ VCC=3.6V
SP4T	TC7MBL3253CFT	TSSOP16	2	Pch+Nch	1.65 to 3.6V	9 pF @ VCC=3V, A-port	9 Ω @ IIS=30mA	10 μA @ VCC=3.6V

Level Translation Function Type

UF6	US8 SOT-765	TSSOP14	TSSOP20
			

Switch Function	Part Number	Package	Bit Count	Specification			
				Supply voltage range		Switch I/O Capacitance @ Switch OFF (Typ.)	Switch ON Resistance @ VCC=3V, VCCB=4.5V, VIS=0V (max)
				VCCA	VCCB		
SPST	TC7SPB9306TU	UF6	1	1.65 to 5.0V	2.3 to 5.5V	7 pF @ VCCA/B=3.3V	8 mΩ @ IIS=30mA
	TC7SPB9307TU						
	TC7WPB9306FK	US8	2				
	TC7WPB9307FK						
	TC7QPB9306FT	TSSOP14	4				
TC7QPB9307FT	TSSOP20	8					
SPDT	TC7MPB9326FT	TSSOP14	2				
	TC7MPB9327FT						

7. Radio-Frequency Devices

RF Diodes



Variable Capacitance Diodes

Application	Part Number	Structure	Package	Absolute Maximum Ratings	Electrical Characteristics(Ta=25°C)							
					V _R (V)	C _T upper (pF)		C _T lower (pF)		C _T upper/ C _T lower (-)	r _s typ. (Ω)	@V _R (V)
						@V _R (V)	@V _R (V)	@V _R (V)	@V _R (V)			
VCO	JDV2S10FS	Single	fSC	10	7.3 to 8.4	0.5	2.75 to 3.4	2.5	2.55	0.35	1	
	1SV314	Single	ESC	10	7.3 to 8.4	0.5	2.75 to 3.4	2.5	2.5	0.35	1	
	JDV2S07FS	Single	fSC	10	4.5	1	2	4	2.3	0.42	1	
	1SV285	Single	ESC	10	4.5	1	2	4	2.3	0.42	1	
	1SV277	Single	USC	10	4.5	1	2	4	2.3	0.42	1	
	JDV2S09FS	Single	fSC	10	9.7 to 11.1	1	4.45 to 5.45	4	2.1	0.33	1	
	1SV311	Single	ESC	10	9.7 to 11.1	1	4.45 to 5.45	4	2.1	0.28	1	
	1SV310	Single	USC	10	9.7 to 11.1	1	4.45 to 5.45	4	2.1	0.28	1	
	1SV281	Single	ESC	10	16	1	8	4	2.0	0.28	1	
	1SV270	Single	USC	10	16	1	8	4	2.0	0.28	1	
	1SV305	Single	ESC	10	18.3	1	6.1	4	3.0	0.27	1	
	1SV304	Single	USC	10	18.3	1	6.1	4	3.0	0.27	1	
	1SV323	Single	ESC	10	26.5 to 29.5	1	6 to 7.1	4	4.3	0.4	4	
	1SV322	Single	USC	10	26.5 to 29.5	1	6 to 7.1	4	4.3	0.4	4	
	1SV325	Single	ESC	10	44 to 49.5	1	9.2 to 12	4	4.3	0.4	4	
	1SV324	Single	USC	10	44 to 49.5	1	9.2 to 12	4	4.3	0.4	4	
	JDV2S36E	Single	ESC	10	44 to 49.5	1	5.4 to 7.3	6	7.5	0.4	4	
	1SV280	Single	ESC	15	3.8 to 4.7	2	1.5 to 2.0	10	2.4	0.44	1	
	1SV239	Single	USC	15	4.25	2	1.75	10	2.4	0.44	1	
	JDV2S41FS	Single	fSC	15	14 to 16	2	5.5 to 6.5	10	2.5	0.2	5	
1SV279	Single	ESC	15	14 to 16	2	5.5 to 6.5	10	2.5	0.2	5		
1SV229	Single	USC	15	14 to 16	2	5.5 to 6.5	10	2.5	0.2	5		
TV, CATV Tuner	1SV282	Single	ESC	34	35.5	2	2.85	25	12.5	0.6	5	
	1SV262	Single	USC	34	35.5	2	2.85	25	12.5	0.6	5	
FM Tuner	1SV228	Cathode com.	S-Mini	15	30.5	3	12.7	8	2.1 to 2.6	0.3	3	

RF Diodes

SL2 (SOD-562)	fSC	CST2 (SOD-882)	ESC (SOD-523)	USC (SOD-323)	S-FLAT	VESM (SOT-723)	SSM (SOT-416)	USM (SOT-323)	S-Mini (SOT-346)
Bottom View 		Bottom View 							

Schottky Barrier Diodes

Application	Part Number	Structure	Package	Absolute Maximum Ratings		Electrical Characteristics (Ta=25°C)					
				V _R (V)	I _F (mA)	V _F typ. (V)	@I _F (mA)	I _R max (μA)	@V _R (V)	C _T typ. (pF)	@V _R (V)
Low VF	JDH2S02SL	Single	SL2	10	10	0.24	1	25	0.5	0.25	0.2
	JDH2S02FS	Single	fSC	10	10	0.24	1	25	0.5	0.3	0.2
	JDH2S01FS	Single	fSC	4	25	0.25	2	25	0.5	0.6	0.2
Standard	1SS315	Single	USC	5	30	0.25	2	25	0.5	0.6	0.2
	1SS154	Single	S-Mini	6	30	0.5	10	0.5	5	0.8	0
	JDH3D01FV	Series	VESM	4	25	0.25	2	25	0.5	0.6	0.2
	JDH3D01S	Series	SSM	4	25	0.25	2	25	0.5	0.6	0.2
	1SS295	Series	S-Mini	4	30	0.25	2	25	0.5	0.6	0
	1SS271	Series	S-Mini	6	30	0.5	10	0.5	5	0.8	0

Switching Diodes

Application	Part Number	Structure	Package	Absolute Maximum Ratings		Electrical Characteristics (Ta=25°C)					
				V _R (V)	I _F (mA)	V _F typ. (V)	@I _F (mA)	C _T max (pF)	@V _R (V)	r _s typ. (Ω)	@V _R (V)
Standard PIN diode	JDP2S02AFS	Single	fSC	30	50	0.9	50	0.3	1	1	10
	JDP2S02ACT	Single	CST2	30	50	0.9	50	0.3	1	1	10
	1SV308	Single	ESC	30	50	0.95	50	0.3	1	1	10
	1SV307	Single	USC	30	50	0.95	50	0.3	1	1	10
	JDP3C02AU	Cathode com.	USM	30	50	0.89	50	0.28	1	1	10
	JDP2S04E	Single	ESC	50	50	0.95	50	0.25	50	3	10
	1SV271	Single	USC	50	50	0.93	50	0.25	50	3	10
	1SV128	Single	S-Mini	50	50	0.95	50	0.25	50	3	10
	1SV172	Series	S-Mini	50	50	0.95	50	0.25	50	3	10
High power PIN	JDP2S12CR	Single	S-FLAT	180	1,000	0.8	50	1	40	0.4	10
RF switching diode	1SS381	Single	ESC	30	100	0.85 (max)	2	0.7	6	0.6	2
	1SS314	Single	USC	30	100	0.85 (max)	2	0.7	6	0.5	2
	1SS364	Cathode com.	SSM	30	50	0.85 (max)	2	0.85	6	0.6	2
	1SS312	Cathode com.	USM	30	50	0.85 (max)	2	0.8	6	0.6	2
	1SS313	Anode com.	USM	30	50	0.85 (max)	2	0.8	6	0.6	2
	1SS268	Cathode com.	S-Mini	30	50	0.85 (max)	2	0.8	6	0.6	2
	1SS269	Anode com.	S-Mini	30	50	0.85 (max)	2	0.8	6	0.6	2

RF MOSFETs



Power MOSFETs

Application	Part Number	Package	Absolute Maximum Ratings			Electrical Characteristics(Ta=25°C)			
			V _{DSS} (V)	I _D (A)	P _D (W)	P _o min (W)	Test condition		
							V _{DS} (V)	f (MHz)	P _I (W)
UHF/VHF Professional radio Amateur radio	RFM08U9X	PW-X	36	5	20	7.5	9.6	520	0.5
	2SK3075	PW-X	30	5	20	7.5	9.6	520	0.5
	2SK3074	PW-Mini	30	1	3	0.63	9.6	520	0.02
	RFM12U7X	PW-X	20	4	20	11.5	7.2	520	1
	RFM07U7X	PW-X	16	3	20	7	7.2	520	0.5
	2SK3476	PW-X	20	3	20	7	7.2	520	0.5
	RFM01U7P	PW-Mini	20	1	3	1	7.2	520	0.1
	2SK3475	PW-Mini	20	1	3	0.63	7.2	520	0.02
	2SK2854	PW-Mini	10	0.5	0.5	0.2	6	849	0.02
RFM06U3X *	PW-X	16	5	20	5	3.6	520	0.5	
FRS/GMRS	RFM04U6P	PW-Mini	16	2	7	3.5	6.0	470	0.2
	2SK4037	PW-X	12	3	20	3.55	6.0	470	0.3
	2SK3078	PW-Mini	10	0.5	3	0.5	4.8	915	0.03
	2SK3079A	PW-X	10	3	20	2.24	4.5	470	0.1
	2SK3078A	PW-Mini	10	0.5	3	0.63	4.5	470	0.1
	2SK3756	PW-Mini	7.5	1	3	1.26	4.5	470	0.1
	RFM03U3P	PW-Mini	16	2.5	7	2.3	3.6	470	0.1
Driver amplifier	RFM00U7U	USQ	20	0.1	0.25	0.1	7.2	520	0.01
	2SK3077	USQ	10	0.1	0.25	0.032	4.8	915	0.001

* Under development (The specification is subject to change without notice.)

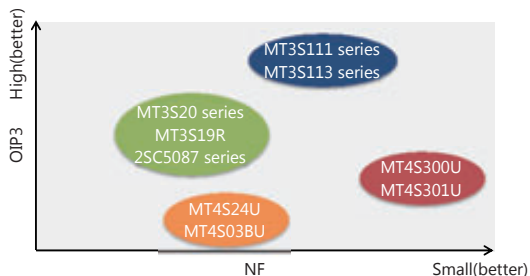
Small signal MOSFETs

Application	Part Number	Package	Absolute Maximum Ratings		Electrical Characteristics(Ta=25°C)					
			V _{DS} (V)	I _D (mA)	G _{FS} typ. (dB)	NF typ. (dB)	Test condition			
							V _{DS} (V)	I _D (mA)	V _{G2S} (V)	f (MHz)
VHF RF, MIX	3SK292	SMQ	12.5	30	26	1.4	6	10	4.5	500
	3SK294	USQ	12.5	30	26	1.4	6	10	4.5	500
UHF RF, MIX	3SK291	SMQ	12.5	30	22.5	1.5	6	10	4.5	800
	3SK293	USQ	12.5	30	22.5	1.5	6	10	4.5	800

RF Transistors

SSM (SOT-416)	USM (SOT-323)	UFM (SOT-323F)	S-Mini (SOT-346)	SOT-23F (SOT-23)	PW-Mini	USQ (SOT-343)	SMQ (SOT-24)
							

Application	Part Number	Package	Absolute Maximum Ratings		Electrical Characteristics (Ta=25°C)										
			V _{CEO} (V)	I _C (mA)	f _T typ. (GHz)	Test condition			Test condition			NF typ. (dB)	Test condition		
						V _{CE} (V)	I _C (mA)	S ₂₁ ² typ. (dB)	V _{CC} (V)	I _C (mA)	f (GHz)		V _{CC} (V)	I _C (mA)	f (GHz)
FM band Amplifier	2SC2714	S-Mini	30	20	0.55	6	1	23	6	1	0.1	2.5	6	1	0.1
	2SC4215	USM	30	20	0.55	6	1	23	6	1	0.1	2.0	6	1	0.1
	2SC4915	SSM	30	20	0.55	6	1	23	6	1	0.1	2.3	6	1	0.1
UHF band Amplifier and oscillator	MT3S16U	USM	5	60	4	3	10	5.5	3	30	1	2.4	2	5	1
	2SC5107	USM	10	30	6	5	5	11	5	5	1	-	-	-	-
	2SC5108	SSM	10	30	6	5	5	11	5	5	1	-	-	-	-
VHF/UHF band low noise amplifier	2SC5064	S-Mini	12	30	7	5	10	12	5	10	1	1.1	5	3	1
	2SC5065	USM	12	30	7	5	10	12	5	10	1	1.1	5	3	1
	2SC5066	SSM	12	30	7	5	10	12	5	10	1	1.1	5	3	1
	2SC5084	S-Mini	12	80	7	10	20	11	10	20	1	1.1	10	5	1
	2SC5085	USM	12	80	7	10	20	11	10	20	1	1.1	10	5	1
	2SC5086	SSM	12	80	7	10	20	11	10	20	1	1.1	10	5	1
	2SC5087	SMQ	12	80	7	10	20	13	10	20	1	1.1	10	5	1
	2SC5095	USM	10	15	10	6	7	13	6	7	1	1.4	6	3	1
LNA for GPS, Satellite radio and DAB Sys.	MT4S300U	USQ	4	50	26.5	3	20	16.9	3	20	2	0.55	3	10	2
	MT4S301U	USQ	4	35	27.5	3	15	18.1	3	15	2	0.57	3	7	2
	MT4S03BU	USQ	5	40	12	3	30	9	3	30	2	1.6	3	10	2
LNA for TV tuner, Automotive TV tuner, FM tuner, DAB system and Low distortion application.	MT4S24U	USQ	5	50	14.5	3	20	11.5	3	20	2	1.55	3	7	2
	2SC5087R	SMQ	12	80	8	10	30	13.5	10	30	1	1.1	10	7	1
	MT3S20TU	UFM	12	80	7	5	30	12	5	50	1	1.45	5	20	1
	MT3S20P	PW-Mini	12	80	7	5	30	11	5	50	1	1.45	5	20	1
	MT3S19R	SOT-23F	6	80	13.5	5	50	13	5	50	1	1.5	5	20	1
	MT3S111TU	UFM	6	100	10	5	30	12.5	5	30	1	0.85	5	30	1
	MT3S111	S-Mini	6	100	11.5	5	30	12	5	30	1	0.9	5	30	1
	MT3S111P	PW-Mini	6	100	8	5	30	10.5	5	30	1	0.95	5	30	1
	MT3S113TU	UFM	5.3	100	11.2	5	50	12.5	5	50	1	1.15	5	50	1
	MT3S113	S-Mini	5.3	100	12.5	5	50	11.8	5	50	1	1.15	5	50	1
MT3S113P	PW-Mini	5.3	100	7.7	5	50	10.5	5	50	1	1.15	5	50	1	



8. Device Packages

2 Pin packages

CL2			SL2 (SOD-962)			SOD-923		
Package dimension	unit : mm		Package dimension	unit : mm		Package dimension	unit : mm	
Land pattern example	unit : mm		Land pattern example	unit : mm		Land pattern example	unit : mm	
MOQ	Tape width	Weight	MOQ	Tape width	Weight	MOQ	Tape width	Weight
10,000 p/reel	8 mm	0.02mg	10,000 p/reel	8 mm	0.2 mg	10,000 p/reel	8 mm	0.55 mg
ISC			CST2 (SOD-882)			CST2B		
Package dimension	unit : mm		Package dimension	unit : mm		Package dimension	unit : mm	
Land pattern example	unit : mm		Land pattern example	unit : mm		Land pattern example	unit : mm	
MOQ	Tape width	Weight	MOQ	Tape width	Weight	MOQ	Tape width	Weight
10,000 p/reel	8 mm	0.6 mg	10,000 p/reel	8 mm	0.7 mg	10,000 p/reel	8 mm	0.7 mg
CST2C			ESC (SOD-523)			USC (SOD-323)		
Package dimension	unit : mm		Package dimension	unit : mm		Package dimension	unit : mm	
Land pattern example	unit : mm		Land pattern example	unit : mm		Land pattern example	unit : mm	
MOQ	Tape width	Weight	MOQ	Tape width	Weight	MOQ	Tape width	Weight
10,000 p/reel	8 mm	1.9 mg	8,000 p/reel	8 mm	1.4 mg	3,000 p/reel	8 mm	4.5 mg

* TPH3: 4,000 p/reel

① MOSFET

② T/B/RT

③ Diode

④ LDO/Load SW

⑤ Logic

⑥ Bus Switch

⑦ RF Devices

⑧ Package

3 Pin packages

S-FLAT		
Package dimension	unit : mm	
Land pattern example	unit : mm	
MOQ	Tape width	Weight
3,000 p/reel	8 mm	13 mg

CST3C		
Package dimension	unit : mm	
Land pattern example	unit : mm	
MOQ	Tape width	Weight
10,000 p/reel	8 mm	0.63 mg

CST3 (SOT-883)		
Package dimension	unit : mm	
Land pattern example	unit : mm	
MOQ	Tape width	Weight
10,000 p/reel	8 mm	0.75 mg

CST3B		
Package dimension	unit : mm	
Land pattern example	unit : mm	
MOQ	Tape width	Weight
10,000 p/reel	8 mm	1.5 mg

VESH (SOT-723)		
Package dimension	unit : mm	
Land pattern example	unit : mm	
MOQ	Tape width	Weight
8,000 p/reel	8 mm	1.5 mg

SSM (SOT-416)		
Package dimension	unit : mm	
Land pattern example	unit : mm	
MOQ	Tape width	Weight
3,000 p/reel	8 mm	2.4 mg

USM (SOT-323)		
Package dimension	unit : mm	
Land pattern example	unit : mm	
MOQ	Tape width	Weight
3,000 p/reel	8 mm	6 mg

UFM (SOT-323F)		
Package dimension	unit : mm	
Land pattern example	unit : mm	
MOQ	Tape width	Weight
3,000 p/reel	8 mm	6.6 mg

S-Mini (SOT-346)		
Package dimension	unit : mm	
Land pattern example	unit : mm	
MOQ	Tape width	Weight
3,000 p/reel	8 mm	12 mg

3 Pin packages

SOT23		
Package dimension	unit : mm	
Land pattern example	unit : mm	
MOQ	Tape width	Weight
3,000 p/reel	8 mm	9 mg

SOT-23F		
Package dimension	unit : mm	
Land pattern example	unit : mm	
MOQ	Tape width	Weight
3,000 p/reel	8 mm	11 mg

PW-Mini		
Package dimension	unit : mm	
Land pattern example	unit : mm	
MOQ	Tape width	Weight
1,000 p/reel	12 mm	50 mg

4 Pin packages

WCSP4E		
Package dimension	unit : mm	
Land pattern example	unit : mm	
MOQ	Tape width	Weight
5,000 p/reel	8 mm	0.34 mg

WCSP4D		
Package dimension	unit : mm	
Land pattern example	unit : mm	
MOQ	Tape width	Weight
5,000 p/reel	8 mm	0.79 mg

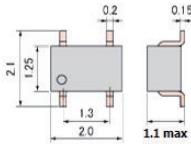
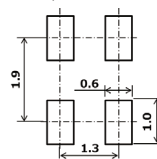
WCSP4		
Package dimension	unit : mm	
Land pattern example	unit : mm	
MOQ	Tape width	Weight
3,000 p/reel	8 mm	0.7 mg

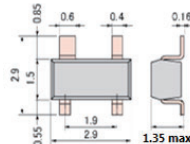
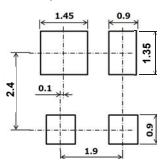
WCSP4C		
Package dimension	unit : mm	
Land pattern example	unit : mm	
MOQ	Tape width	Weight
3,000 p/reel	8 mm	0.9 mg

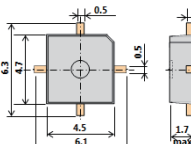
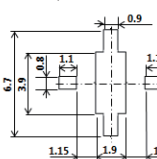
SDFN4		
Package dimension	unit : mm	
Land pattern example	unit : mm	
MOQ	Tape width	Weight
10,000 p/reel	8 mm	0.6 mg

DFN4		
Package dimension	unit : mm	
Land pattern example	unit : mm	
MOQ	Tape width	Weight
10,000 p/reel	8 mm	1.3 mg

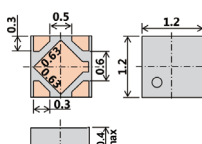
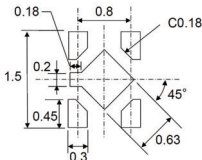
4 Pin packages

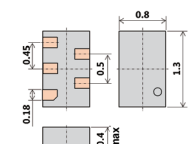
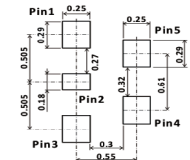
USQ (SOT-343)		
Package dimension	unit : mm	
		
Land pattern example	unit : mm	
		
MOQ	Tape width	Weight
3,000 p/reel	8 mm	6 mg

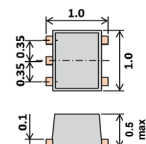
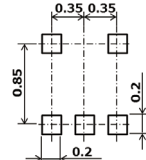
SMQ (SOT-24)		
Package dimension	unit : mm	
		
Land pattern example	unit : mm	
		
MOQ	Tape width	Weight
3,000 p/reel	8 mm	13 mg

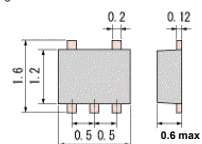
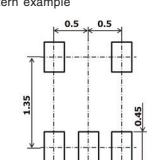
PW-X		
Package dimension	unit : mm	
		
Land pattern example	unit : mm	
		
MOQ	Tape width	Weight
1,000 p/reel	12 mm	13 mg

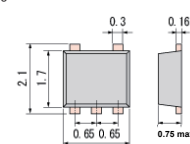
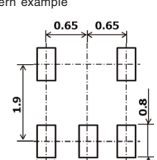
5 Pin packages

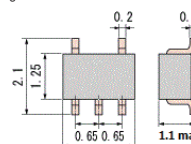
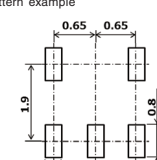
DFN5B		
Package dimension	unit : mm	
		
Land pattern example	unit : mm	
		
MOQ	Tape width	Weight
5,000 p/reel	8 mm	1.4 mg

DFN5		
Package dimension	unit : mm	
		
Land pattern example	unit : mm	
		
MOQ	Tape width	Weight
5,000 p/reel	8 mm	1 mg

fSV (SOT-953)		
Package dimension	unit : mm	
		
Land pattern example	unit : mm	
		
MOQ	Tape width	Weight
10,000 p/reel	8 mm	1 mg

ESV (SOT-553)		
Package dimension	unit : mm	
		
Land pattern example	unit : mm	
		
MOQ*	Tape width	Weight
4,000 p/reel	8 mm	3 mg

UFV (SOT-353F)		
Package dimension	unit : mm	
		
Land pattern example	unit : mm	
		
MOQ	Tape width	Weight
3,000 p/reel	8 mm	7 mg

USV (SOT-353)		
Package dimension	unit : mm	
		
Land pattern example	unit : mm	
		
MOQ	Tape width	Weight
3,000 p/reel	8 mm	6 mg

* TPL3: 8,000 p/reel

6 Pin packages

SMV (SOT-25)		
Package dimension	unit : mm	
Land pattern example	unit : mm	
MOQ	Tape width	Weight
3,000 p/reel	8 mm	14 mg

WCSP6E/6F		
Package dimension	unit : mm	
Land pattern example	unit : mm	
MOQ*	Tape width	Weight
3,000 p/reel	8 mm	1 mg

* WCSP6E: 5,000 p/reel

DFN6		
Package dimension	unit : mm	
Land pattern example	unit : mm	
MOQ	Tape width	Weight
3,000 p/reel	8 mm	1.7 mg

MP6B		
Package dimension	unit : mm	
Land pattern example	unit : mm	
MOQ	Tape width	Weight
3,000 p/reel	8 mm	2.4 mg

MP6C		
Package dimension	unit : mm	
Land pattern example	unit : mm	
MOQ	Tape width	Weight
5,000 p/reel	8 mm	2.4 mg

WCSP6C		
Package dimension	unit : mm	
Land pattern example	unit : mm	
MOQ	Tape width	Weight
3,000 p/reel	8 mm	1.4 mg

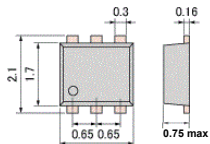
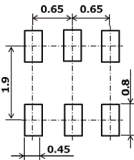
UDFN6 (SOT-1118)		
Package dimension	unit : mm	
Land pattern example	unit : mm	
MOQ	Tape width	Weight
3,000 p/reel	8 mm	8.5 mg

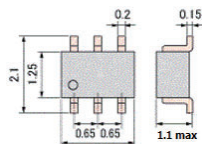
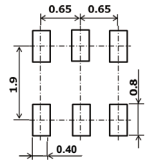
UDFN6B (SOT-1220)		
Package dimension	unit : mm	
Land pattern example	unit : mm	
MOQ	Tape width	Weight
3,000 p/reel	8 mm	8.5 mg

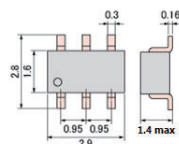
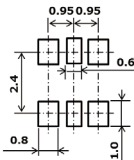
ES6 (SOT-563)		
Package dimension	unit : mm	
Land pattern example	unit : mm	
MOQ*	Tape width	Weight
4,000 p/reel	8 mm	3 mg

* TPL3: 8,000 p/reel

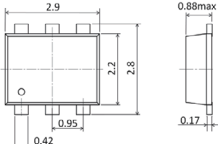
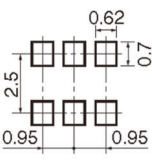
6 Pin packages

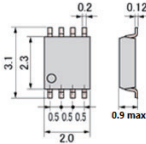
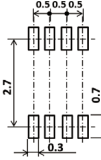
UF6 (SOT-363F)		
Package dimension	unit : mm	
		
Land pattern example	unit : mm	
		
MOQ	Tape width	Weight
3,000 p/reel	8 mm	7 mg

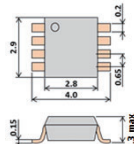
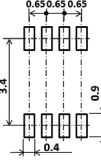
US6 (SOT-363)		
Package dimension	unit : mm	
		
Land pattern example	unit : mm	
		
MOQ	Tape width	Weight
3,000 p/reel	8 mm	6.8 mg

SM6 (SOT-26)		
Package dimension	unit : mm	
		
Land pattern example	unit : mm	
		
MOQ	Tape width	Weight
3,000 p/reel	8 mm	15 mg

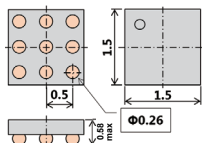
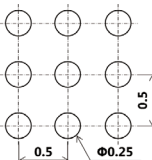
8 Pin packages

TSOP6F		
Package dimension	unit : mm	
		
Land pattern example	unit : mm	
		
MOQ	Tape width	Weight
3,000 p/reel	8 mm	16 mg

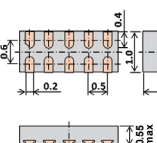
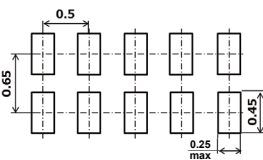
US8 (SOT-765)		
Package dimension	unit : mm	
		
Land pattern example	unit : mm	
		
MOQ	Tape width	Weight
3,000 p/reel	8 mm	8.8 mg

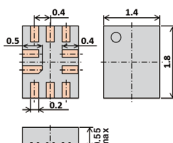
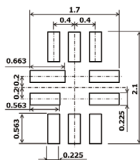
SM8 (SOT-505)		
Package dimension	unit : mm	
		
Land pattern example	unit : mm	
		
MOQ	Tape width	Weight
3,000 p/reel	12 mm	12 mg

9 Pin packages

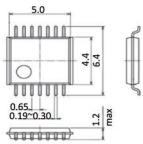
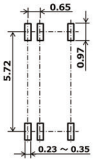
WCSP9		
Package dimension	unit : mm	
		
Land pattern example	unit : mm	
		
MOQ	Tape width	Weight
5,000 p/reel	8 mm	3.5 mg

10 Pin packages

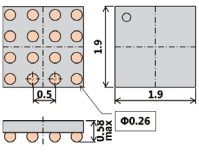
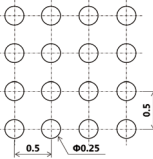
DFN10		
Package dimension	unit : mm	
		
Land pattern example	unit : mm	
		
MOQ	Tape width	Weight
3,000 p/reel	8 mm	3.2 mg

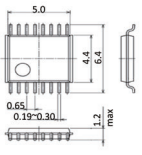
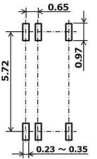
UQFN10		
Package dimension	unit : mm	
		
Land pattern example	unit : mm	
		
MOQ	Tape width	Weight
3,000 p/reel	8 mm	3.5 mg

14 Pin packages

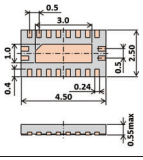
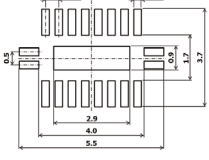
TSSOP14B		
Package dimension	unit : mm	
		
Land pattern example	unit : mm	
		
MOQ	Tape width	Weight
2,000 p/reel	16 mm	60 mg
2,500 p/reel	12 mm	

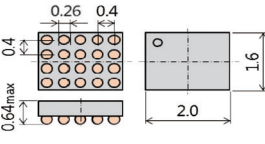
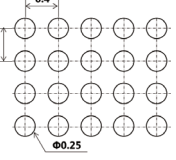
16 Pin packages

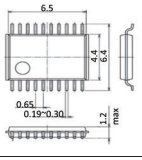
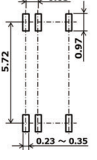
WCSP16C		
Package dimension	unit : mm	
		
Land pattern example	unit : mm	
		
MOQ	Tape width	Weight
5,000 p/reel	8 mm	3.9 mg

TSSOP16B		
Package dimension	unit : mm	
		
Land pattern example	unit : mm	
		
MOQ	Tape width	Weight
2,000 p/reel	16 mm	60 mg
2,500 p/reel	12 mm	

20 Pin packages

TQFN20		
Package dimension	unit : mm	
		
Land pattern example	unit : mm	
		
MOQ*	Tape width	Weight
-	12 mm	17 mg

WCSP20		
Package dimension	unit : mm	
		
Land pattern example	unit : mm	
		
MOQ	Tape width	Weight
3,000 p/reel	8 mm	5 mg

TSSOP20B		
Package dimension	unit : mm	
		
Land pattern example	unit : mm	
		
MOQ	Tape width	Weight
2,000 p/reel	16 mm	80 mg

* 3,000 or 5,000pcs/reel

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