

Features

- High density cell design for ultra low $R_{DS(on)}$
- Excellent package for good heat dissipation

Applications

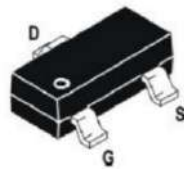
- Power switching application
- Uninterruptible power supply

Product Summary

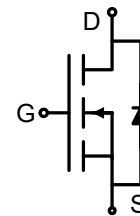
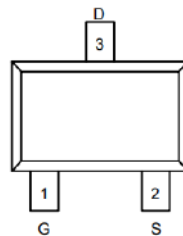


V_{DS}	100	V
$R_{DS(on),Max} @ V_{GS}=10V$	160	mΩ
I_D	3	A

top view



SOT-23



Absolute Maximum Rating 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	±20	V
Drain Current-Continuous	I_D	3	A
Drain Current-Pulsed <small>Note1</small>	I_{DM}	12	A
Maximum Power Dissipation	P_D	1.5	W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Thermal Characteristics

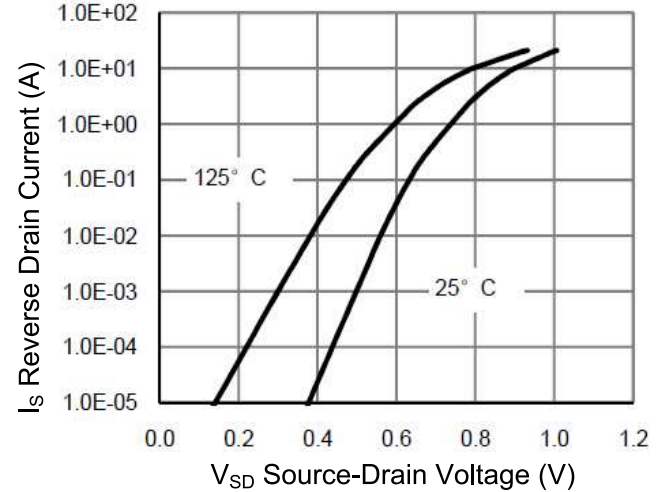
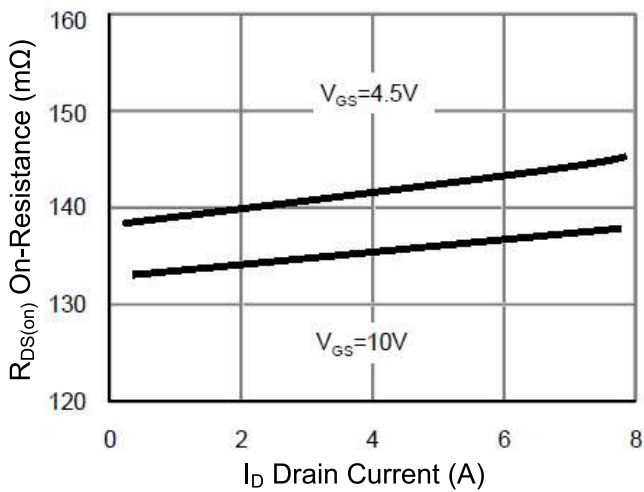
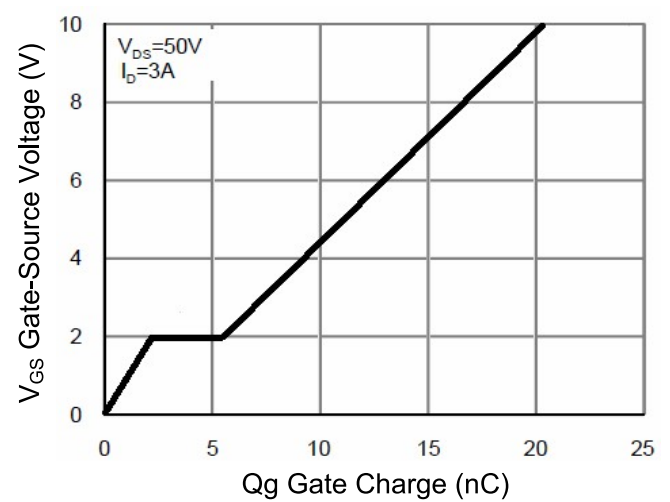
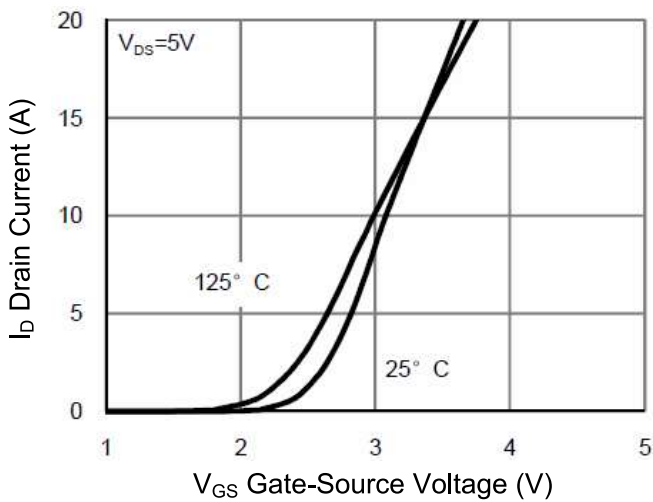
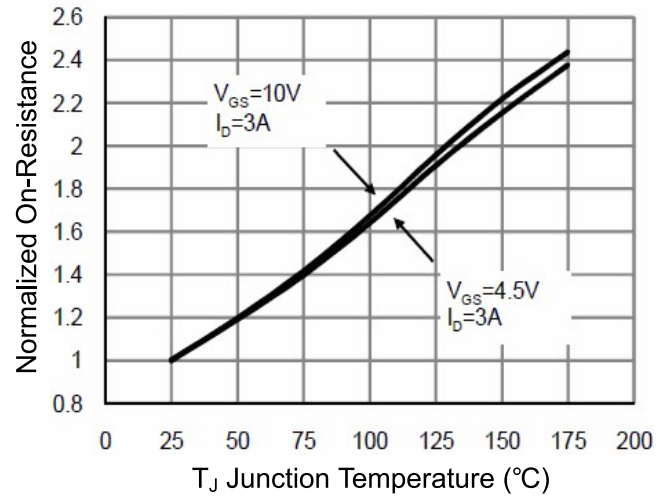
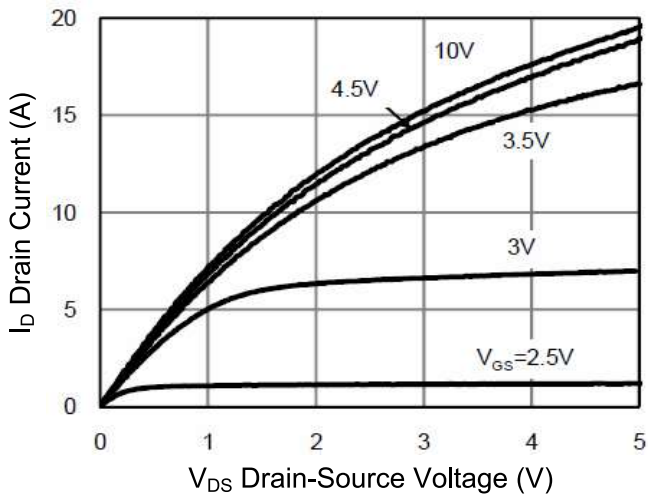
Thermal Resistance, Junction-to-Ambient	$R_{θJA}$	125	°C/W
Thermal Resistance, Junction-to-Case	$R_{θJC}$	80	°C/W

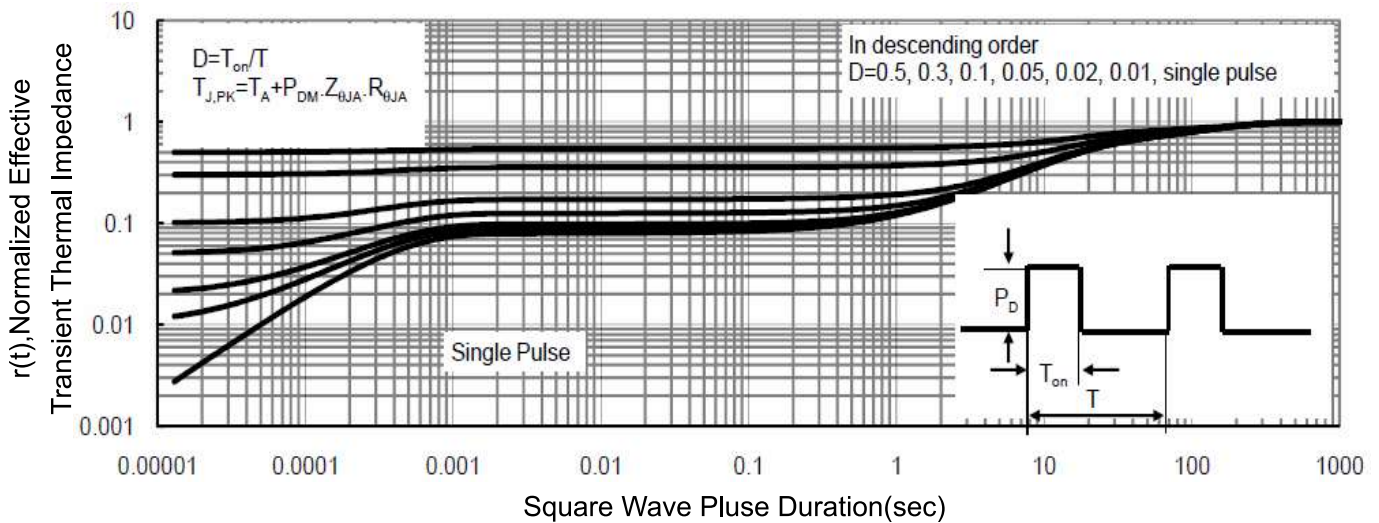
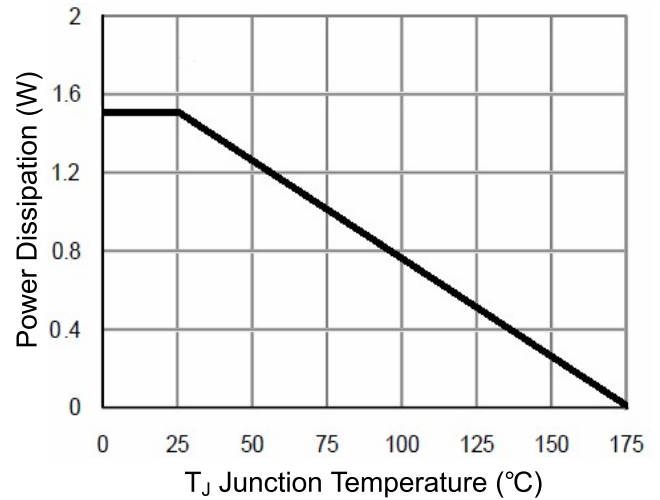
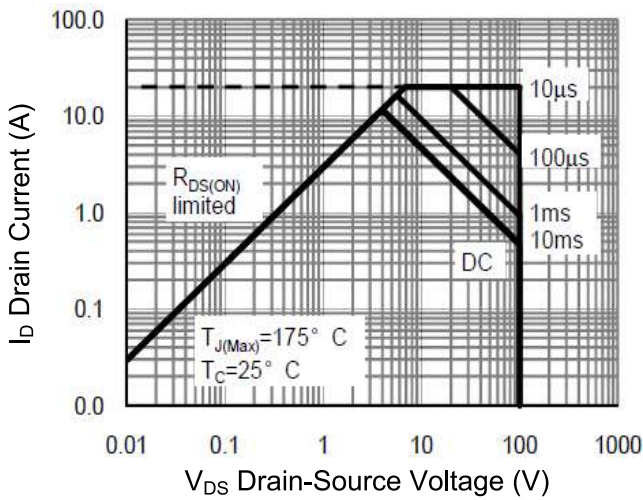
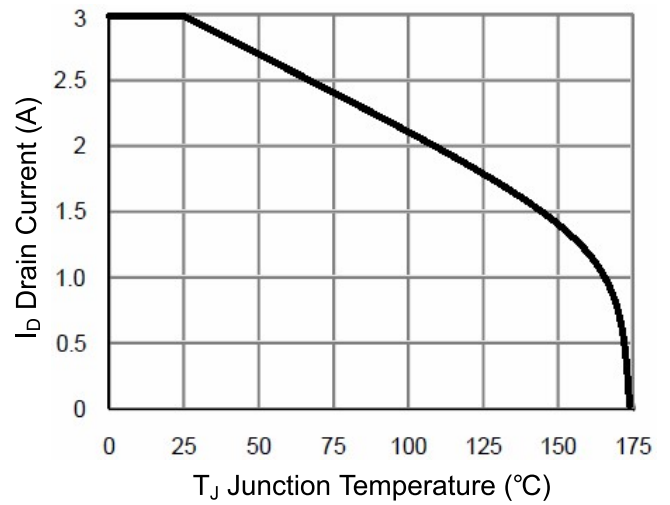
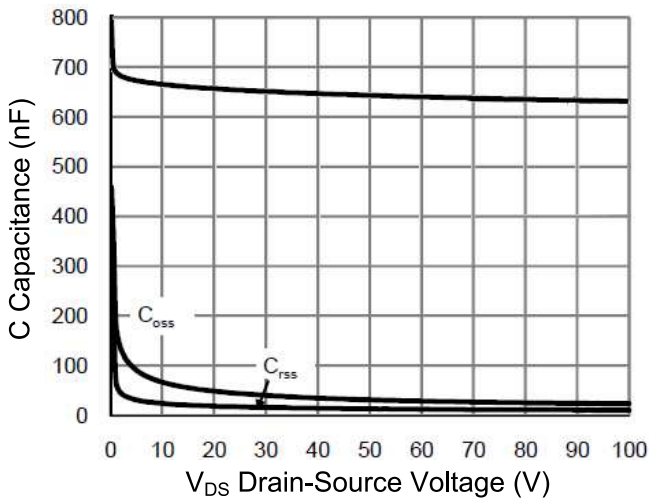
Electrical Characteristics (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	100	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=100V, V_{GS}=0V$	--	--	1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	--	--	± 100	nA
Gate Threshold Voltage ^{Note3}	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1.0	1.5	2.0	V
Drain-Source On-Resistance ^{Note3}	$R_{DS(on)}$	$V_{GS}=10V, I_D=3A$	--	--	160	m Ω
		$V_{GS}=4.5V, I_D=3A$	--	--	170	m Ω
Forward Transconductance ^{Note3}	g_{FS}	$V_{DS}=5V, I_D=3A$	--	5	--	S
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS}=50V, V_{GS}=0V, f=1MHz$	--	650	--	pF
Output Capacitance	C_{oss}		--	24	--	pF
Reverse Transfer Capacitance	C_{rss}		--	20	--	pF
Switching Characteristics						
Turn-on Delay Time	$t_{d(on)}$	$V_{DD}=50V, R_L=19\Omega$ $V_{GS}=10V, R_{GEN}=3\Omega$	--	6	--	nS
Turn-on Rise Time	t_r		--	4	--	nS
Turn-off Delay Time	$t_{d(off)}$		--	20	--	nS
Turn-off Fall Time	t_f		--	4	--	nS
Total Gate Charge	Q_g	$V_{DS}=50V, I_D=3A, V_{GS}=10V$	--	20	--	nC
Gate-Source Charge	Q_{gs}		--	2.1	--	nC
Gate-Drain Charge	Q_{gd}		--	3.3	--	nC
Source-Drain Diode Characteristics						
Diode Forward Voltage ^{Note3}	V_{SD}	$V_{GS}=0V, I_S=3A$	--	--	1.2	V
Diode Forward Current ^{Note2}	I_S		--	--	3	A

Note: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.
 2. Surface Mounted on FR4 Board, $t \leq 10$ sec.
 3. Pulse Test: Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.

Typical Characteristic Curves



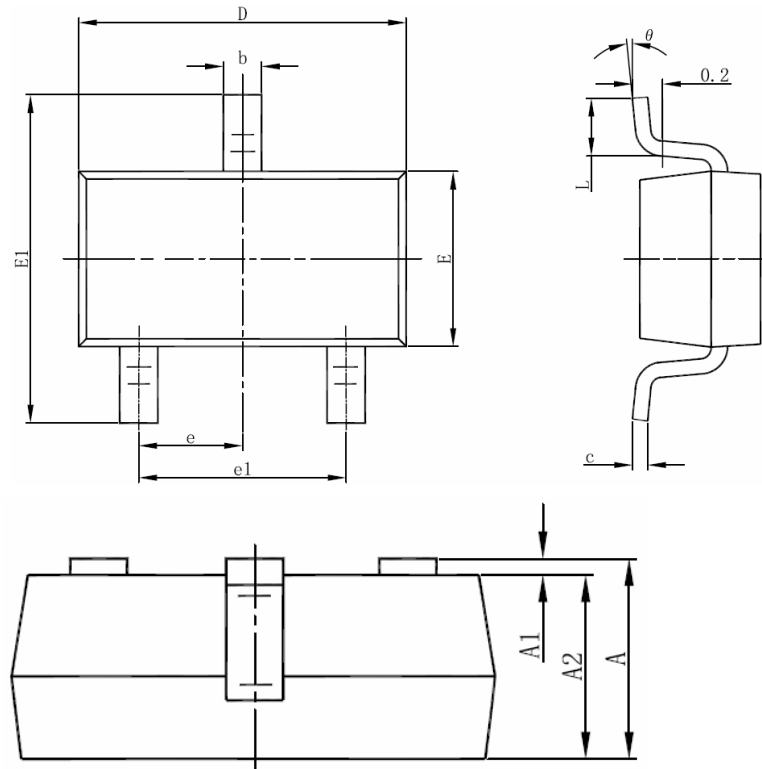


Ordering and Marking Information

Ordering Device No.	Marking	Package	Packing	Quantity
ASDM100N03ZA-R	100N03	SOT-23	Tape&Reel	3000/Reel

PACKAGE	MARKING
SOT-23	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;">正面丝印</div>

SOT-23 PACKAGE INFORMATION



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

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