



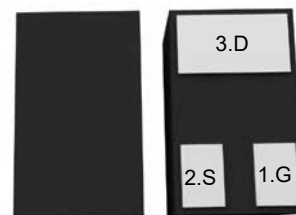
PJM01N20KDC

N-Channel Enhancement Mode Power MOSFET

Features

- Low gate charge and $R_{DS(ON)}$
- ESD protected(HBM) up to 2KV
- $V_{DS}=20V, I_D=0.8A$
 $R_{DS(on)} < 310m\Omega @ V_{GS}=4.5V$

DFN1x0.6-3L



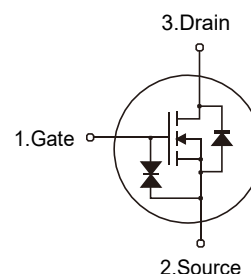
1. Gate 2.Source 3.Drain

Applications

- Load switch and in PWM applications
- Power management

Marking Code: JN

Schematic Diagram



Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 12	V
Drain Current-Continuous	I_D	0.8	A
Drain Current-Pulsed ^{Note1}	I_{DM}	3.2	A
Maximum Power Dissipation	P_D	0.35	W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Thermal Characteristics

Thermal Resistance,Junction-to-Ambient ^{Note2}	$R_{\theta JA}$	357	°C/W
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Electrical Characteristics

(Ta=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	20	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=20V, V_{GS}=0V$	--	--	1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 10V, V_{DS}=0V$	--	--	± 10	μA
Gate Threshold Voltage ^{Note3}	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.35	0.75	1.1	V
Drain-Source On-Resistance ^{Note3}	$R_{DS(on)}$	$V_{GS}=4.5V, I_D=0.6A$	--	180	300	m Ω
		$V_{GS}=2.5V, I_D=0.5A$	--	260	350	m Ω
		$V_{GS}=1.8V, I_D=0.2A$	--	415	700	m Ω
Forward Transconductance ^{Note3}	g_{FS}	$V_{DS}=5V, I_D=0.5A$	--	2	--	S
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS}=10V, V_{GS}=0V, f=1MHz$	--	56	--	pF
Output Capacitance	C_{oss}		--	20	--	pF
Reverse Transfer Capacitance	C_{rss}		--	2.5	--	pF
Switching Characteristics						
Turn-on Delay Time	$t_{d(on)}$	$V_{DD}=10V, I_D=0.5A$ $V_{GS}=4.5V, R_G=10\Omega$	--	2	--	nS
Turn-on Rise Time	t_r		--	18.8	--	nS
Turn-off Delay Time	$t_{d(off)}$		--	10	--	nS
Turn-off Fall Time	t_f		--	23	--	nS
Total Gate Charge	Q_g	$V_{DS}=10V, I_D=0.5A, V_{GS}=4.5V$	--	1	--	nC
Gate-Source Charge	Q_{gs}		--	0.28	--	nC
Gate-Drain Charge	Q_{gd}		--	0.22	--	nC
Source-Drain Diode Characteristics						
Diode Forward Voltage ^{Note3}	V_{SD}	$V_{GS}=0V, I_S=0.8A$	--	--	1.2	V
Diode Forward Current ^{Note2}	I_S		--	--	0.8	A

Note: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.

2. Surface Mounted on FR4 Board, $t \leq 10$ sec.

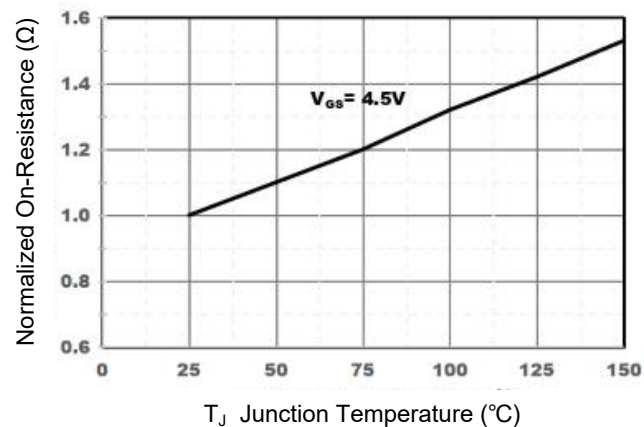
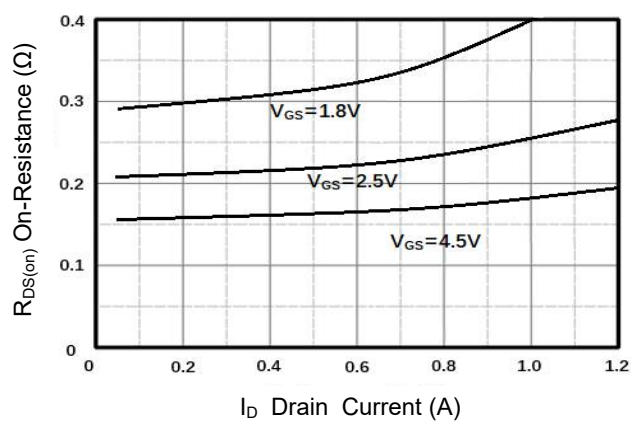
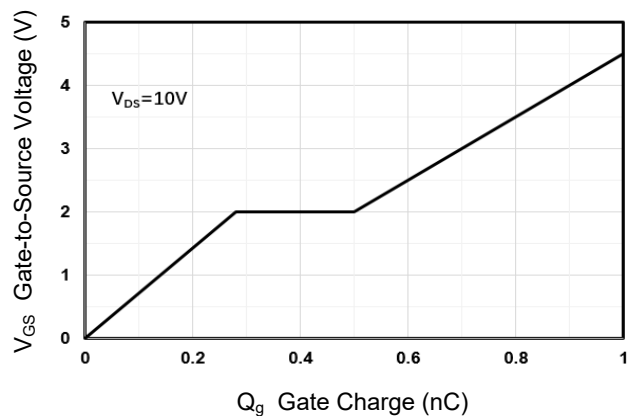
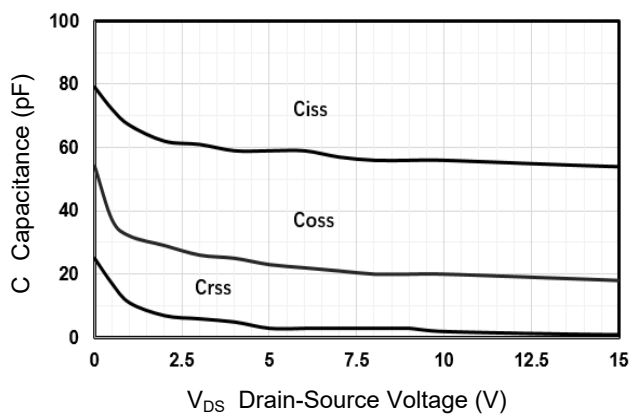
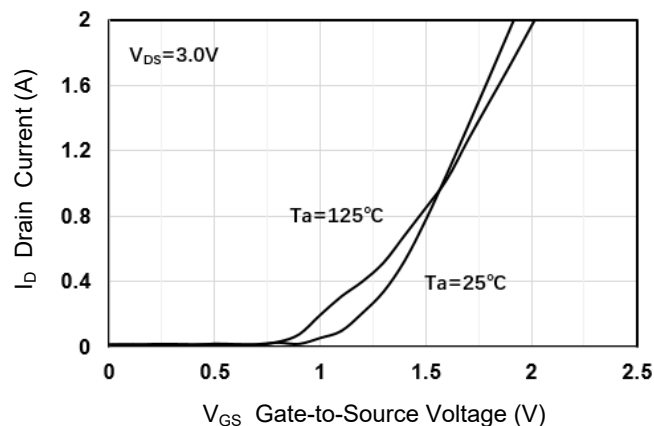
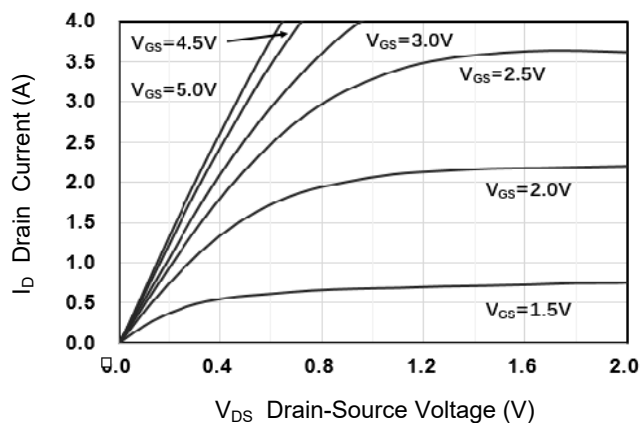
3. Pulse Test: Pulse width $\leq 300\mu s$, duty cycle $\leq 0.5\%$.



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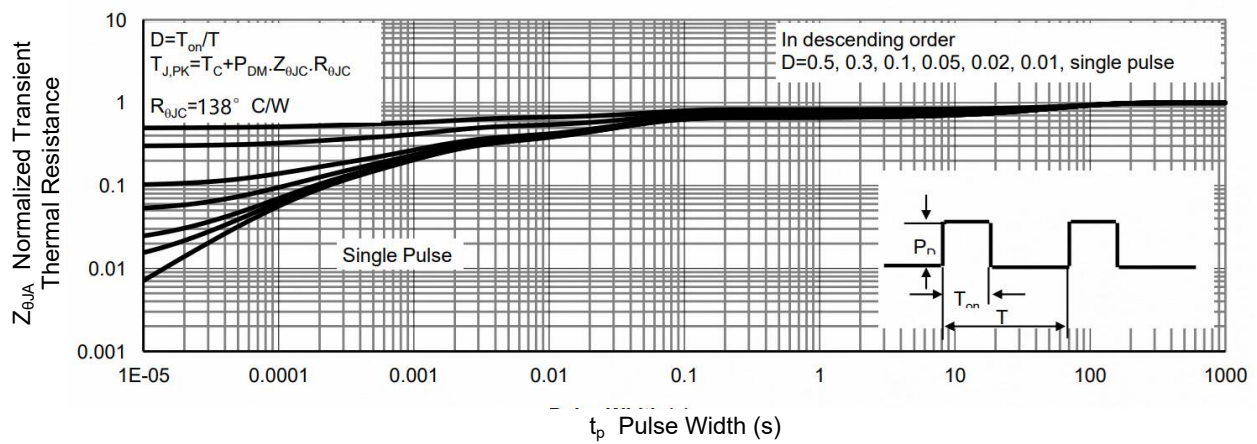
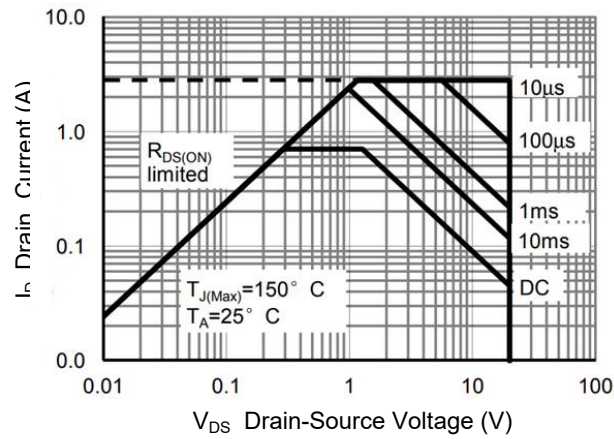
Typical Characteristic Curves





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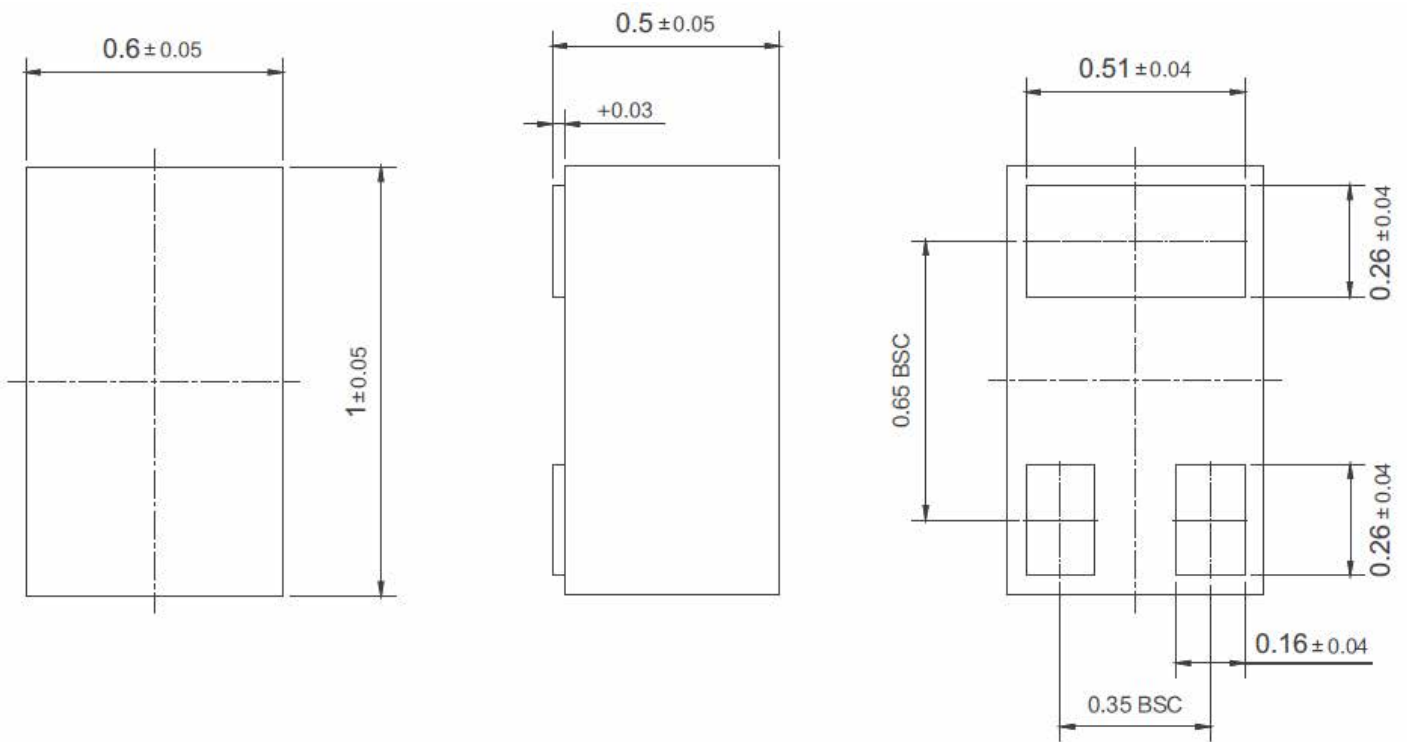
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Package Outline

DFN1x0.6-3L-0009

Dimensions in mm



Ordering Information

Device	Package	Shipping
PJM01N20KDC	DFN1x0.6-3L	10,000PCS/Reel&7inches