



PJM65H02NTD

N-Channel Enhancement Mode Power MOSFET

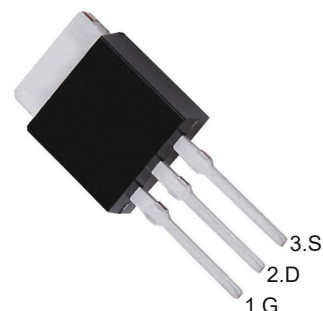
Features

- Low gate charge and $R_{DS(ON)}$
- Low reverse transfer capacitances 100%
- single pulse avalanche energy test
- $V_{DS} = 650V$, $I_D = 2A$
 $R_{DS(ON)} < 4.5\Omega$ @ $V_{GS} = 10V$

Application

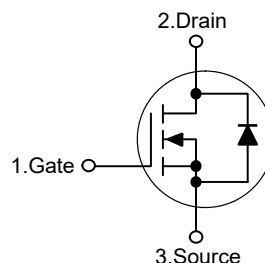
- Power switch circuit of adaptor and charger

TO-251



1. Gate 2.Drain 3.Source

Schematic Diagram



Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	650	V
Gate-Source Voltage	V_{GS}	± 30	V
Drain Current-Continuous	I_D	2	A
Drain Current-Pulsed ^{Note1}	I_{DM}	8	A
Single Pulse Avalanche Energy ^{Note4}	E_{AS}	68	mJ
Avalanche Energy, Repetitive ^{Note1}	E_{AR}	6.4	mJ
Avalanche Current ^{Note1}	I_{AR}	1.1	A
Maximum Power Dissipation	P_D	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}	$R_{\theta JA}$	62	°C/W
Maximum Junction-to-Case ^{Note2}	$R_{\theta JC}$	3.57	°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	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	650	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=650V, V_{GS}=0V$	--	--	1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 30V, V_{DS}=0V$	--	--	± 100	nA
Gate Threshold Voltage ^{Note3}	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	2	--	4	V
Drain-Source On-Resistance ^{Note3}	$R_{DS(on)}$	$V_{GS}=10V, I_D=1A$	--	3.6	4.5	Ω
Forward Transconductance ^{Note3}	g_{FS}	$V_{DS}=15V, I_D=2A$	--	2.6	--	S
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS}=25V, V_{GS}=0V, f=1MHz$	--	290	--	pF
Output Capacitance	C_{oss}		--	31	--	pF
Reverse Transfer Capacitance	C_{rss}		--	6	--	pF
Switching Characteristics						
Turn-on Delay Time	$t_{d(on)}$	$V_{DS}=325V, I_D=2A,$ $V_{GS}=10V, R_G=9.1\Omega$	--	8	--	nS
Turn-on Rise Time	t_r		--	6	--	nS
Turn-off Delay Time	$t_{d(off)}$		--	30	--	nS
Turn-off Fall Time	t_f		--	11	--	nS
Total Gate Charge	Q_g	$V_{DD}=325V, I_D=2A,$ $V_{GS}=10V$	--	9	--	nC
Gate-Source Charge	Q_{gs}		--	1.5	--	nC
Gate-Drain Charge	Q_{gd}		--	4	--	nC
Source-Drain Diode Characteristics						
Diode Forward Voltage ^{Note3}	V_{SD}	$V_{GS}=0V, I_S=2A$	--	--	1.5	V
Diode Forward Current ^{Note2}	I_S		--	--	2	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 $\leq 380\mu s$, duty cycle $\leq 2\%$

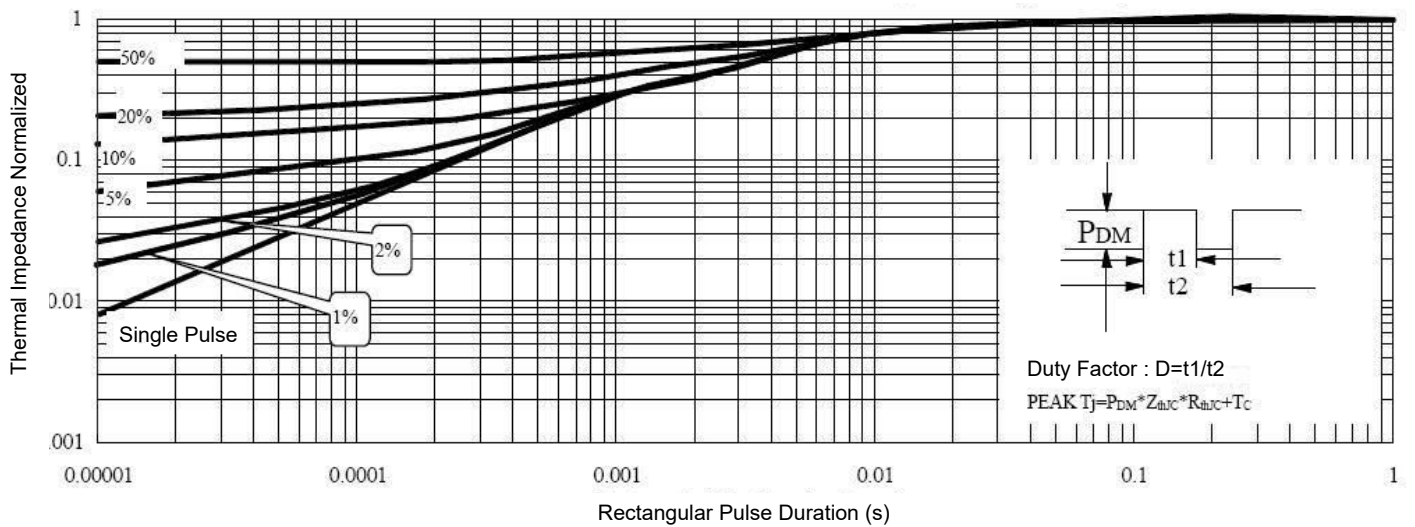
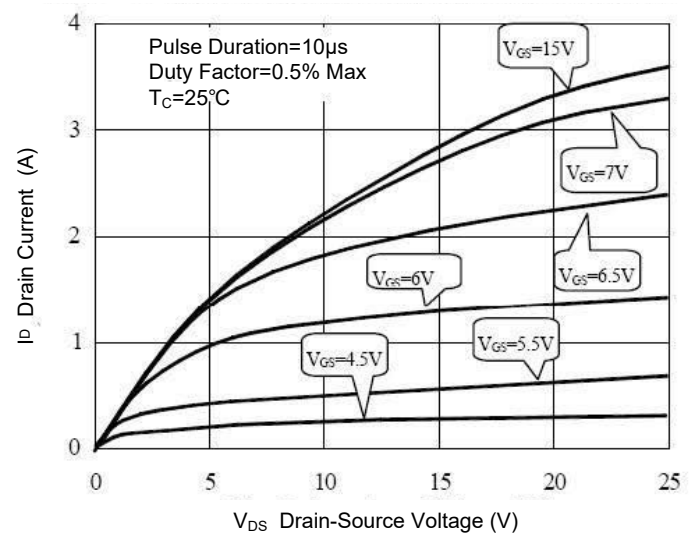
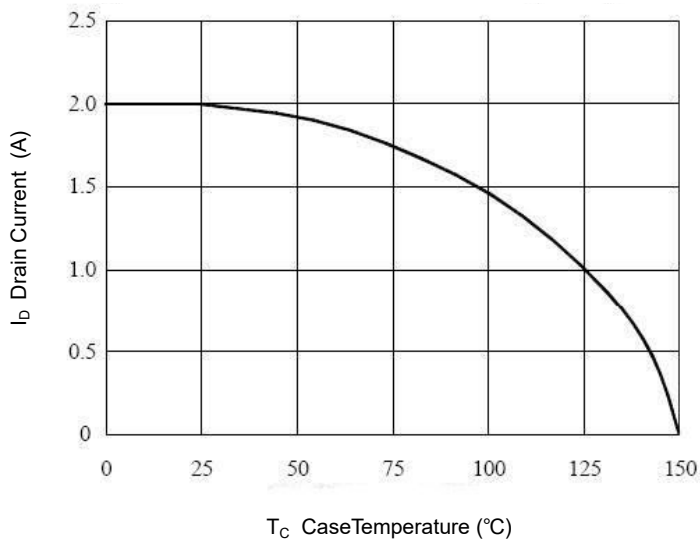
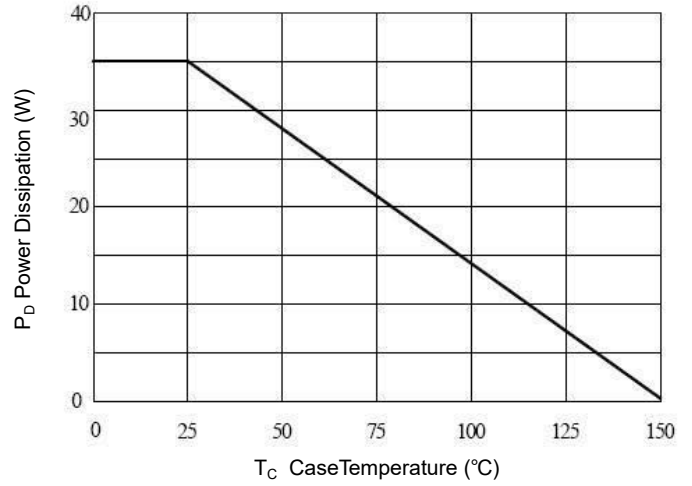
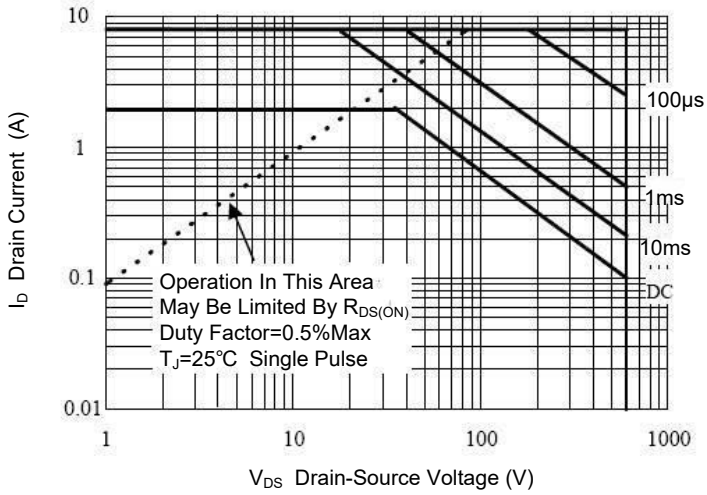
4. E_{AS} Condition: $L=10mH$, $I_D=3.7A$, Start $T_J=25^\circ C$



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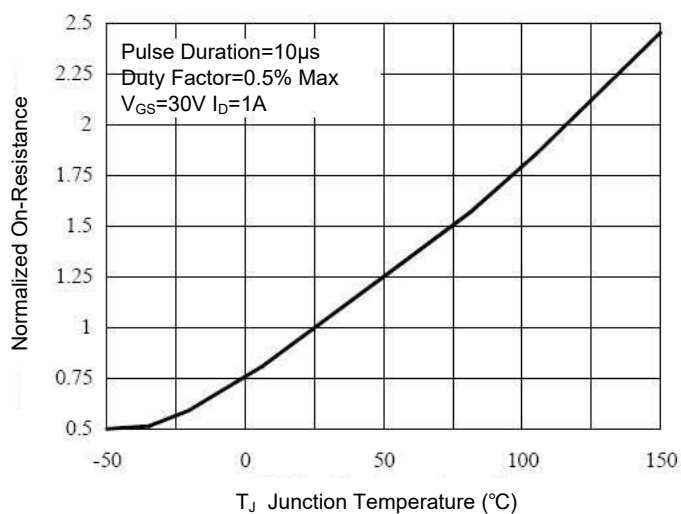
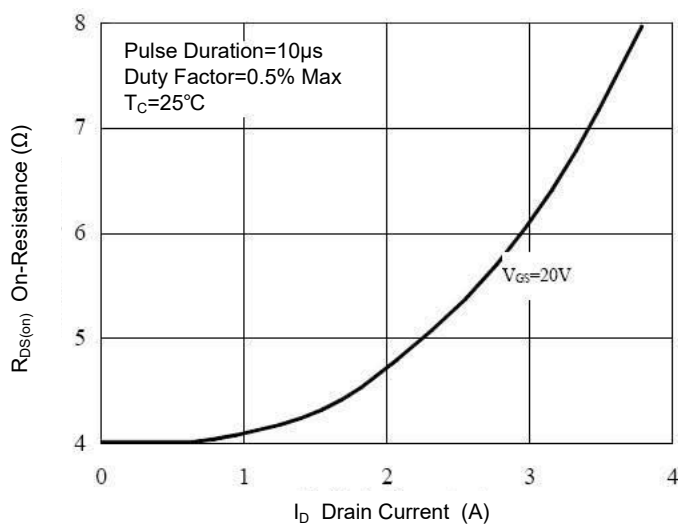
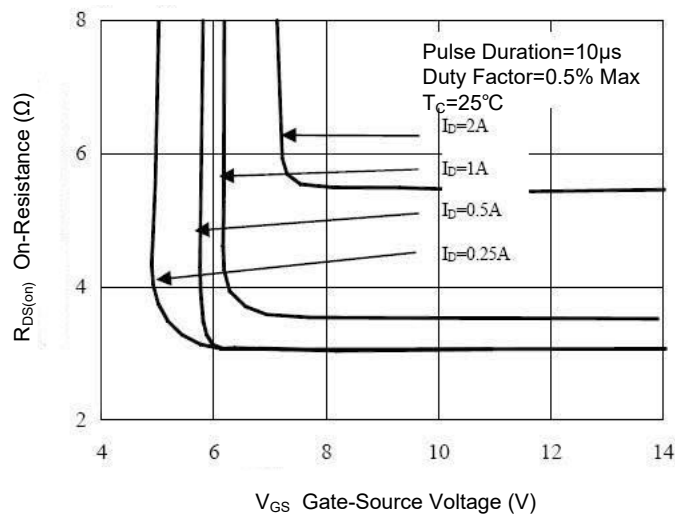
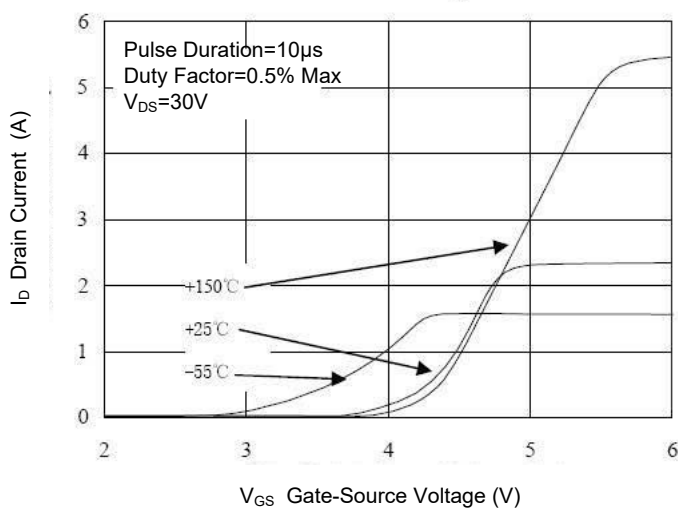
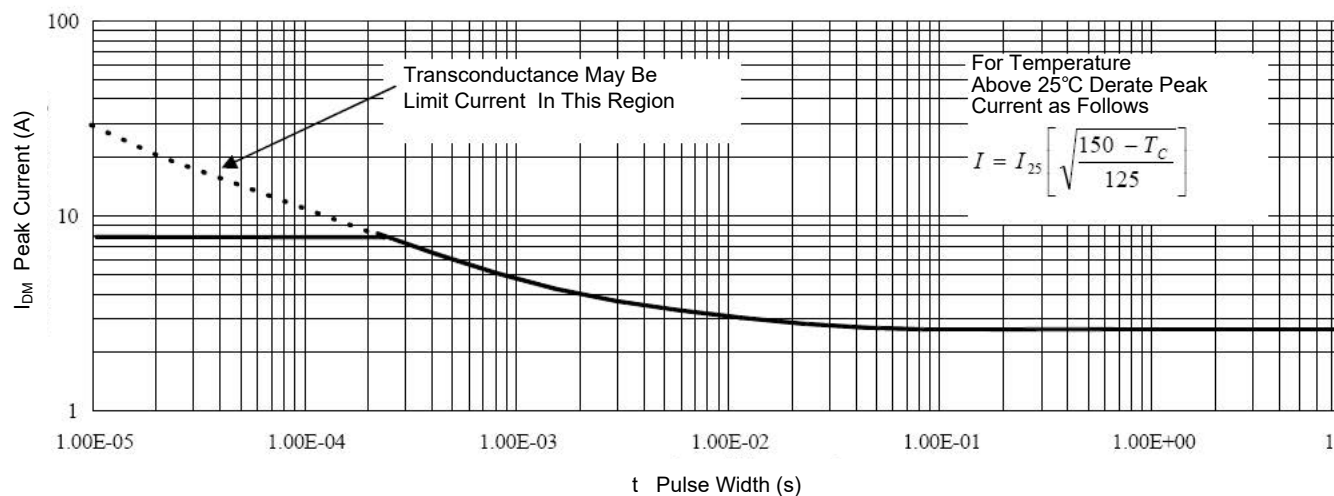
Typical Characteristic Curves





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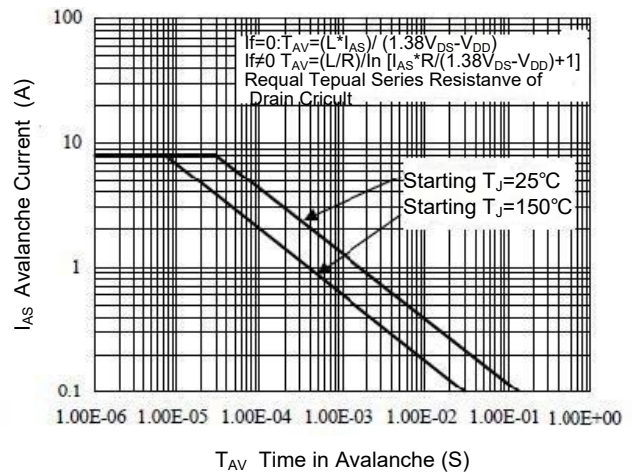
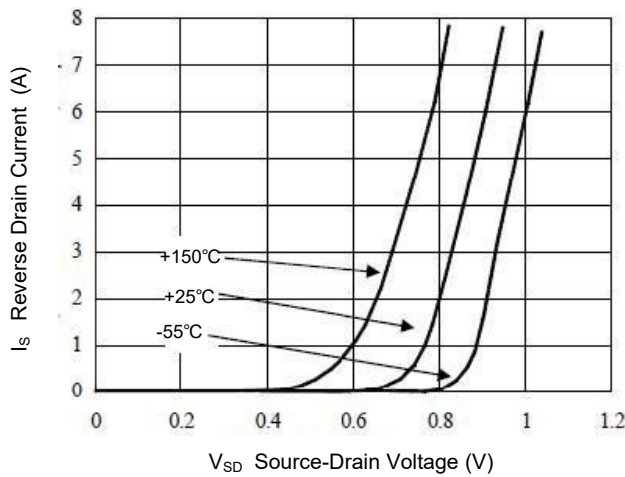
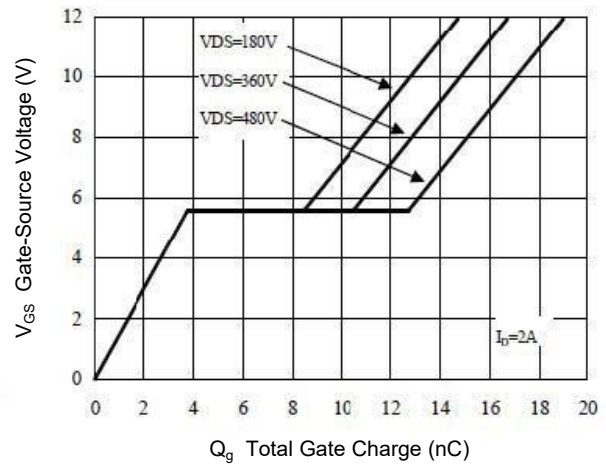
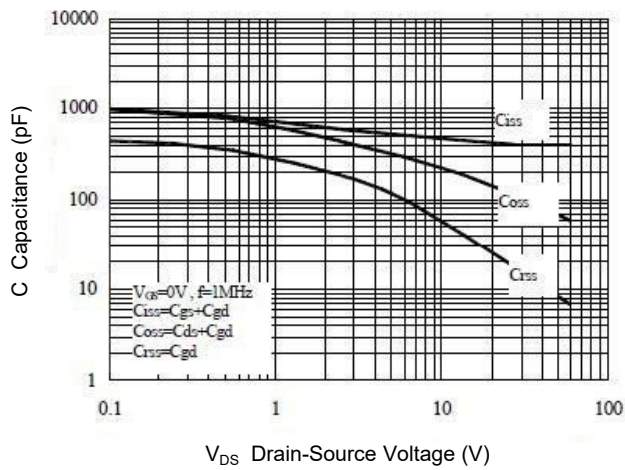
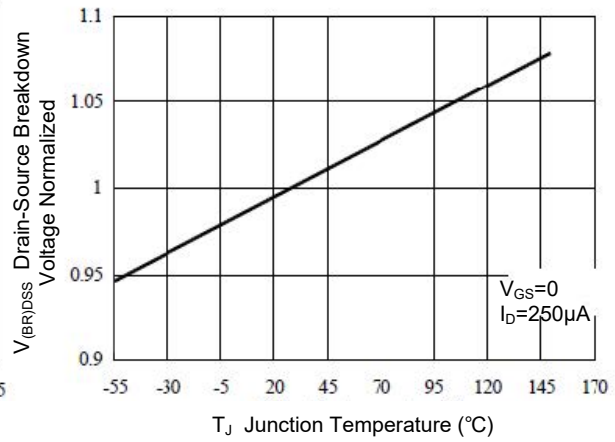
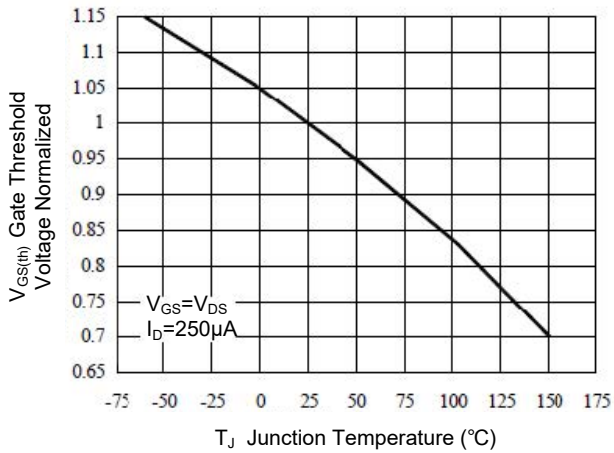
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Package Outline

TO-251

Dimensions in mm

