



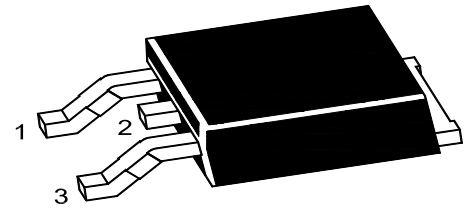
PJM20H05NTE

N-Channel Enhancement Mode Power MOSFET

Features

- Fast Switching
- Low Gate Charge
- Low Reverse Transfer Capacitances
- $V_{DS} = 200V, I_D = 5A$
 $R_{DS(on)} < 3\Omega @ V_{GS} = 4.5V$

TO-252

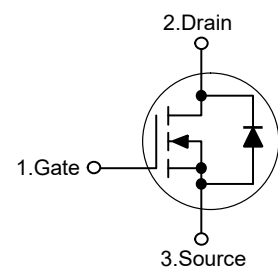


1. Gate 2.Drain 3.Source

Applications

- LED Lighting
- Charger
- Standby Power

Schematic Diagram



Absolute Maximum Ratings

Ratings at 25°C case temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	200	V
Gate-Source Voltage	V_{GS}	± 30	V
Drain Current-Continuous	I_D	5	A
Drain Current-Pulsed ^{Note1}	I_{DM}	20	A
Single pulse avalanche energy ^{Note4}	E_{AS}	30	mJ
Maximum Power Dissipation	P_D	40	W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Thermal Characteristics

Thermal Resistance,Junction-to-Ambient ^{Note2}	$R_{\theta JA}$	62.5	°C/W
Maximum Junction-to-Case ^{Note2}	$R_{\theta JC}$	3.13	°C/W



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Electrical Characteristics

(T_C=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 =250μA	200	--	--	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =200V,V _{GS} =0V	--	--	1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±30V,V _{DS} =0V	--	--	±100	nA
Gate Threshold Voltage ^{Note3}	V _{GS(th)}	V _{DS} =V _{GS} ,I _D =250μA	0.4	0.7	1.5	V
Drain-Source On-Resistance ^{Note3}	R _{DS(on)}	V _{GS} =4.5V,I _D =0.5A	--	2.5	3.0	Ω
		V _{GS} =2.5V,I _D =0.5A	--	2.8	4.0	Ω
Forward Transconductance ^{Note3}	g _{FS}	V _{DS} =25V,I _D =2.5A	--	1	--	S
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =25V,V _{GS} =0V,f=1MHz	--	80	--	pF
Output Capacitance	C _{oss}		--	6	--	pF
Reverse Transfer Capacitance	C _{rss}		--	2	--	pF
Switching Characteristics						
Turn-on Delay Time	t _{d(on)}	V _{DD} =100V, I _D =5A, R _G =10Ω	--	2	--	nS
Turn-on Rise Time	t _r		--	4	--	nS
Turn-off Delay Time	t _{d(off)}		--	6	--	nS
Turn-off Fall Time	t _f		--	3	--	nS
Total Gate Charge	Q _g	V _{DD} =100V,I _D =5A, V _{GS} =10V	--	2	--	nC
Gate-Source Charge	Q _{gs}		--	1	--	nC
Gate-Drain Charge	Q _{gd}		--	1.2	--	nC
Source-Drain Diode Characteristics						
Diode Forward Voltage ^{Note3}	V _{SD}	V _{GS} =0V,I _S =5A	--	--	1.5	V
Diode Forward Current ^{Note2}	I _S		--	--	5	A

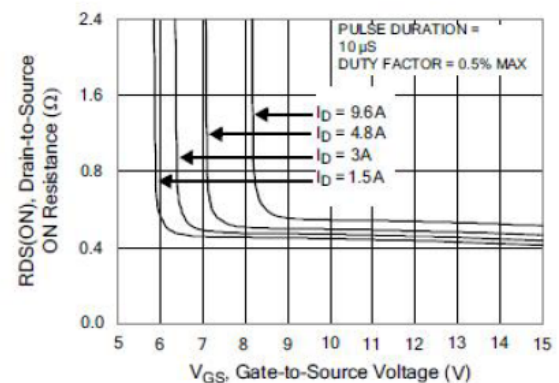
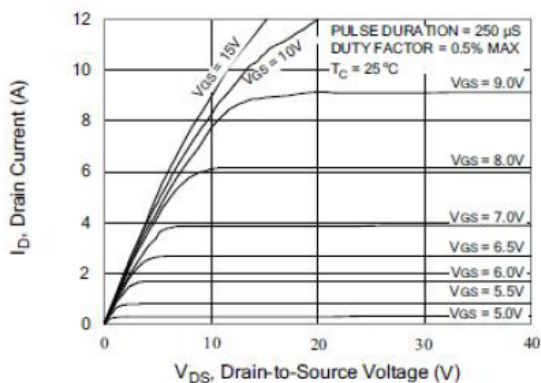
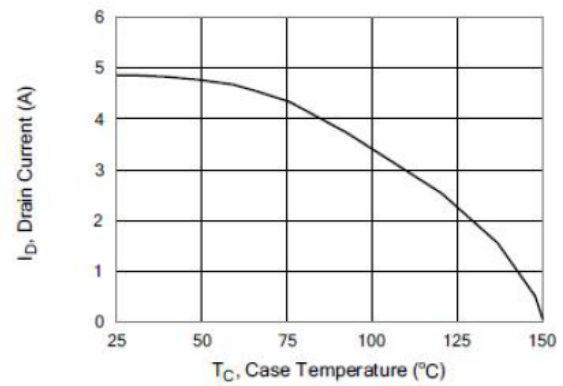
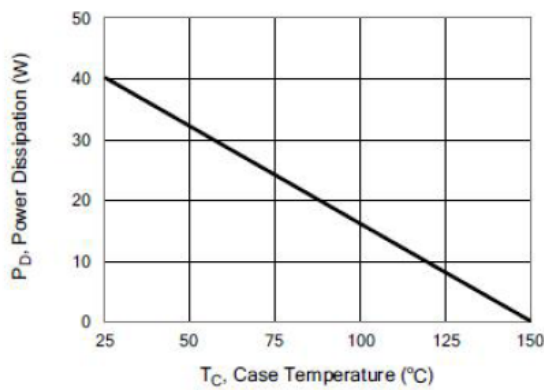
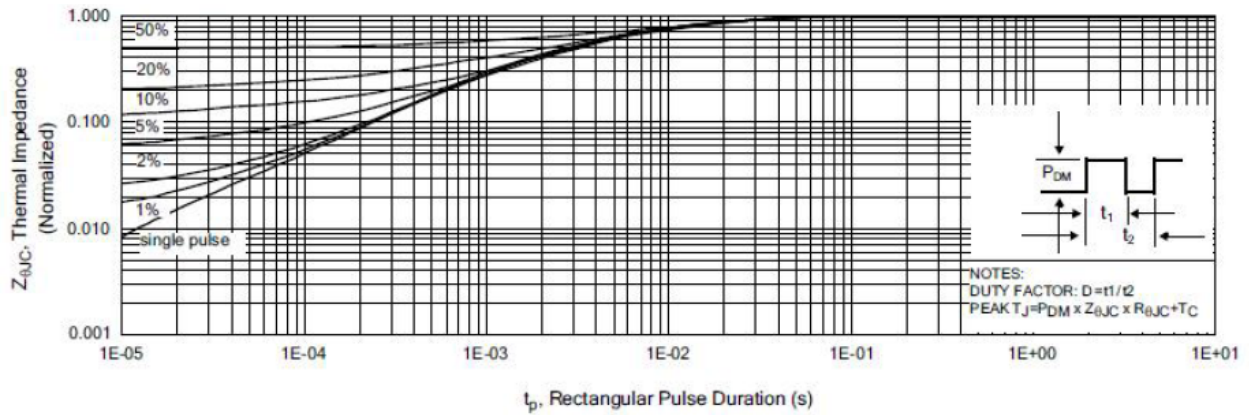
Note: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.

2. Surface Mounted on FR4 Board, t ≤ 10 sec.

3. Pulse Test: Pulse width ≤ 300μs, duty cycle ≤ 2%.

4. E_{AS} condition : L=10mH, I_D=1A, start T_J=25°C.

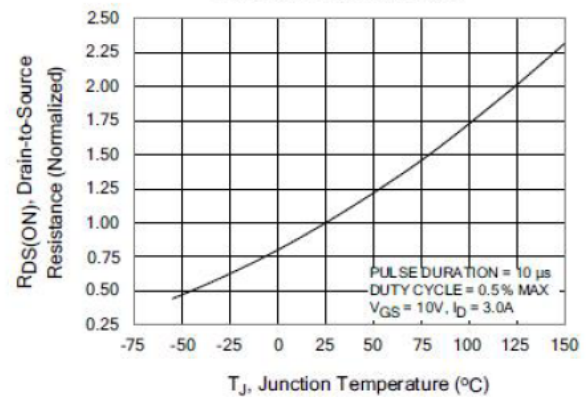
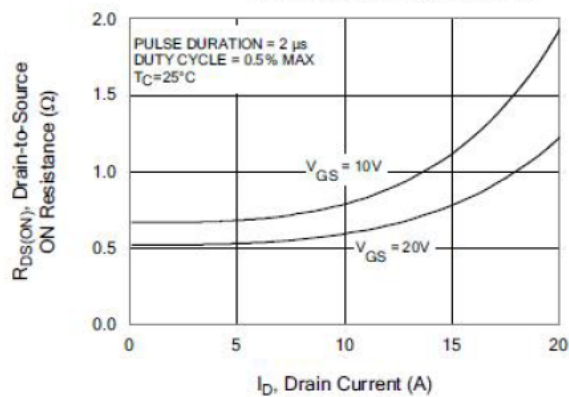
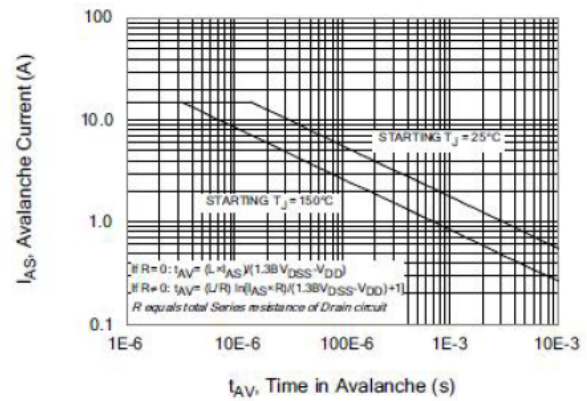
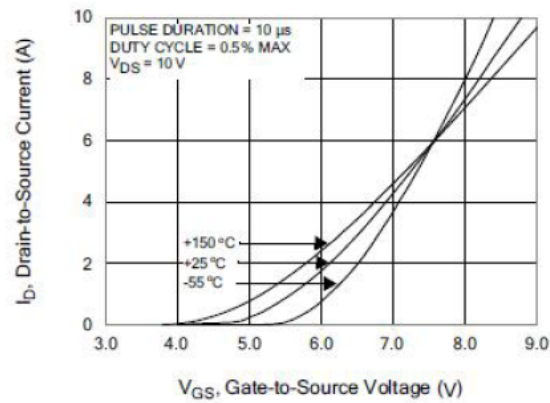
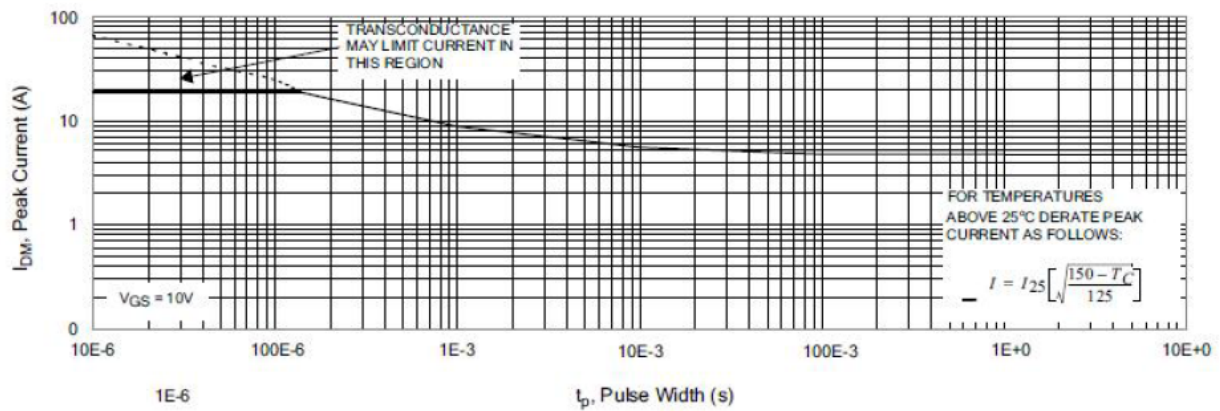
Typical Characteristic Curves





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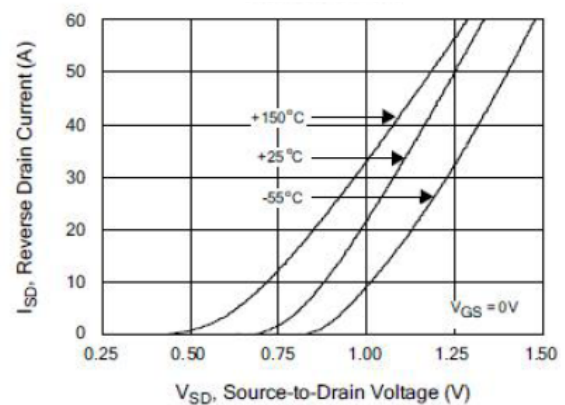
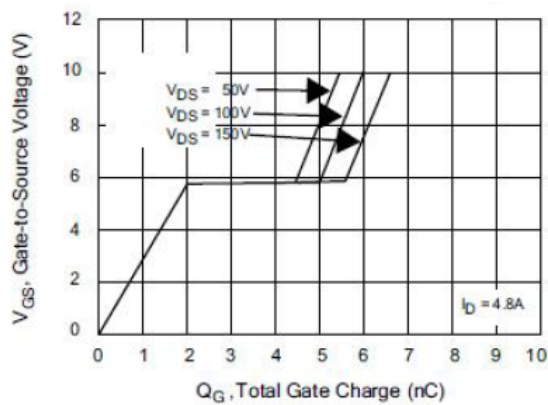
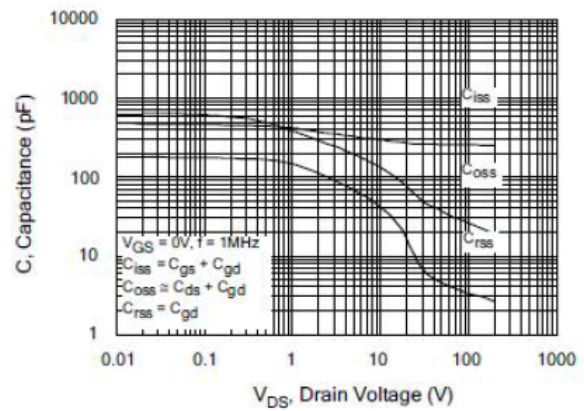
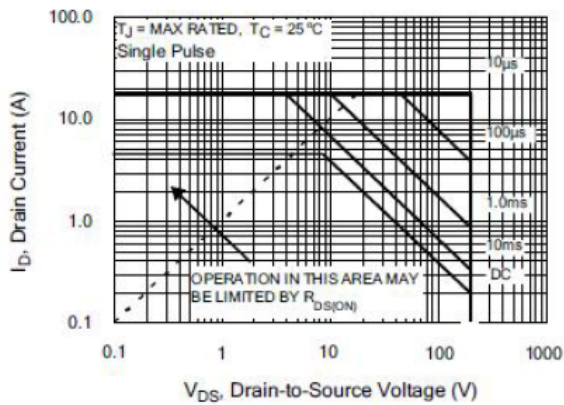
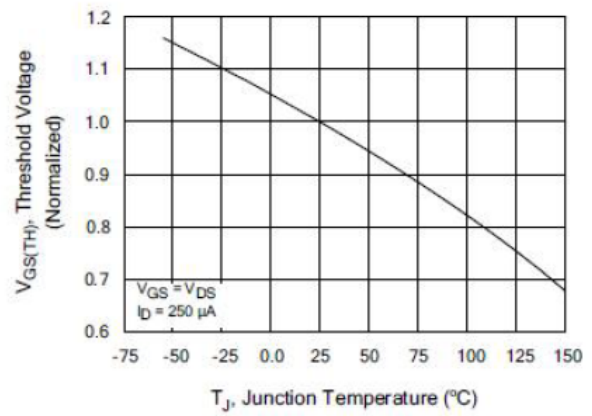
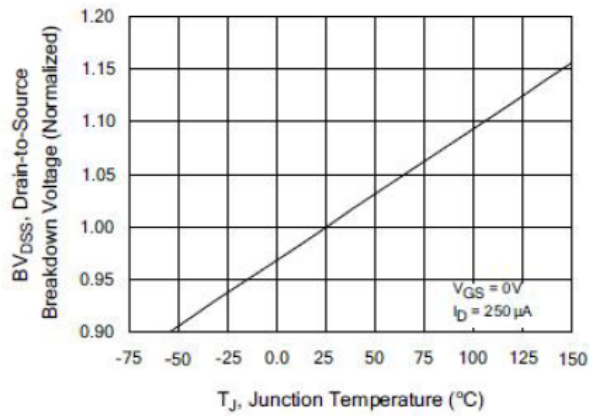
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Package Outline

TO-252

Dimensions in mm

