



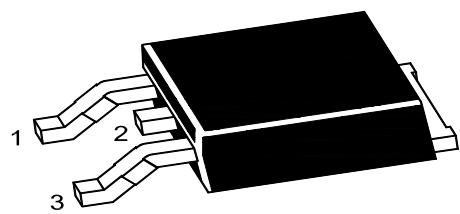
PJM20N60TE

N-Channel Enhancement Mode Power MOSFET

Features

- Fast Switching
- Low Reverse transfer capacitances
- Low gate charge and low $R_{DS(on)}$
- $V_{DS} = 60V, I_D = 20A$
- $R_{DS(on)} < 35m\Omega @ V_{GS} = 10V$

TO-252

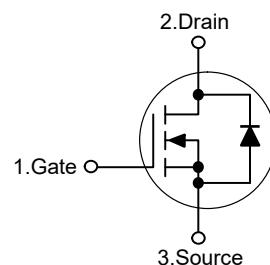


1. Gate 2.Drain 3.Source

Applications

- Power switching application
- Hard switched and high frequency circuits

Schematic Diagram



Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current-Continuous	I_D	20	A
Drain Current-Pulsed ^{Note1}	I_{DM}	60	A
Single pulse avalanche energy ^{Note4}	E_{AS}	72	mJ
Avalanche energy, Repetitive ^{Note1}	E_{AR}	18	mJ
Avalanche Current ^{Note1}	I_{AR}	11	A
Maximum Power Dissipation	P_D	45	W
Junction Temperature	T_J	175	°C
Storage Temperature Range	T_{STG}	-55 to +175	°C

Thermal Characteristics

Thermal Resistance, Junction-to-Ambient ^{Note2}	$R_{\theta JA}$	3.3	°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 =250μA	60	--	--	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =60V, V _{GS} =0V	--	--	1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V	--	--	±1	μA
Gate Threshold Voltage ^{Note3}	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	1.0	--	2.5	V
Drain-Source On-Resistance ^{Note3}	R _{DS(on)}	V _{GS} =10V, I _D =20A	--	27	35	mΩ
Forward Transconductance ^{Note3}	g _{FS}	V _{DS} =5V, I _D =5A	11	--	--	S
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =30V, V _{GS} =0V, f=1MHz	--	500	--	pF
Output Capacitance	C _{oss}		--	60	--	pF
Reverse Transfer Capacitance	C _{rss}		--	25	--	pF
Switching Characteristics						
Turn-on Delay Time	t _{d(on)}	V _{DD} =30V, I _D =2A V _{GS} =10V, R _G =3Ω	--	5	--	nS
Turn-on Rise Time	t _r		--	2.6	--	nS
Turn-off Delay Time	t _{d(off)}		--	2.3	--	nS
Turn-off Fall Time	t _f		--	5.5	--	nS
Total Gate Charge	Q _g	V _{DD} =30V, I _D =4.5A, V _{GS} =10V	--	47	--	nC
Gate-Source Charge	Q _{gs}		--	6	--	nC
Gate-Drain Charge	Q _{gd}		--	14	--	nC
Source-Drain Diode Characteristics						
Diode Forward Voltage ^{Note3}	V _{SD}	V _{GS} =0V, I _s =20A	--	--	1.5	V
Diode Forward Current ^{Note2}	I _s		--	--	20	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 ≤ 380μs, Duty Cycle ≤ 2%.

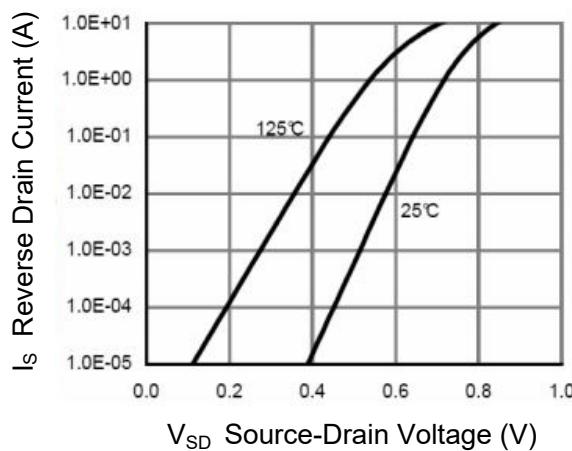
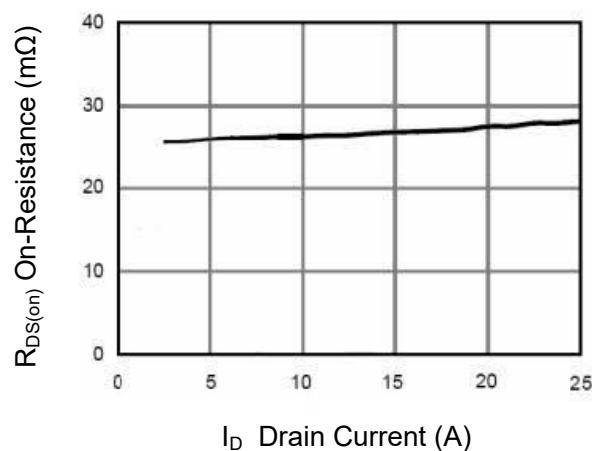
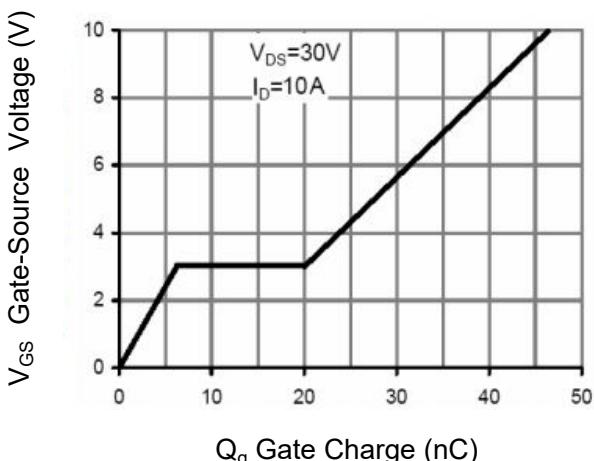
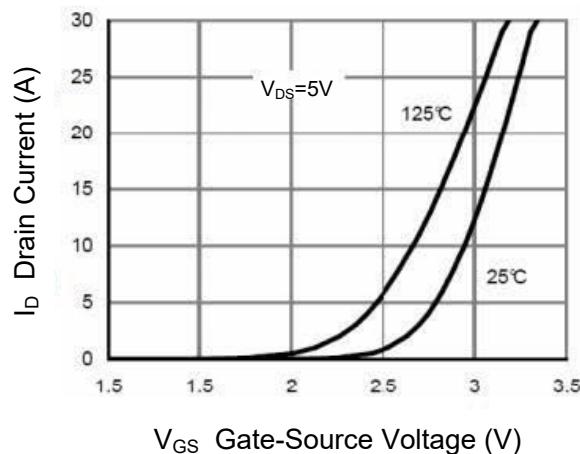
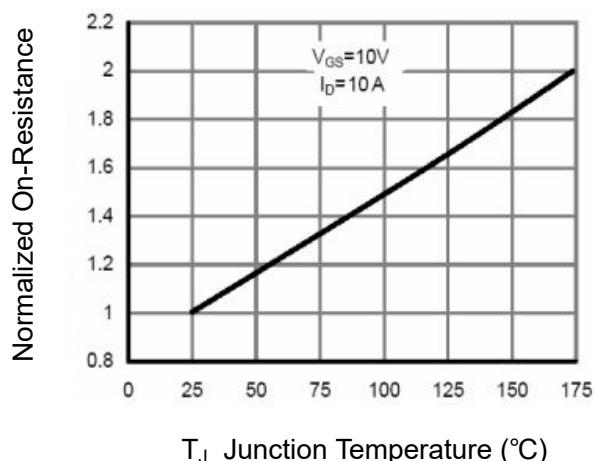
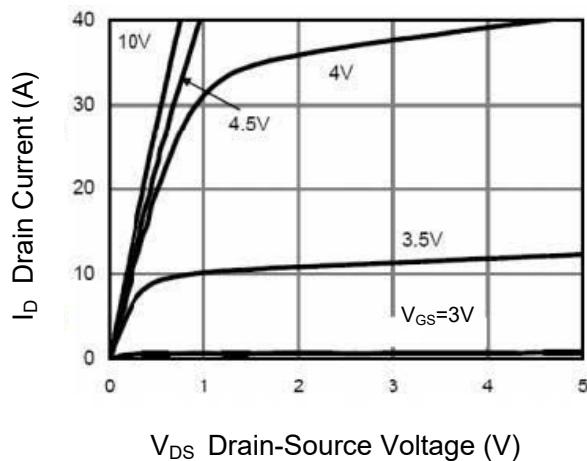
4. E_{AS} condition : V_{DD}=30V, V_G=10V, L=0.5mH, R_G=25Ω, T_J=25°C.



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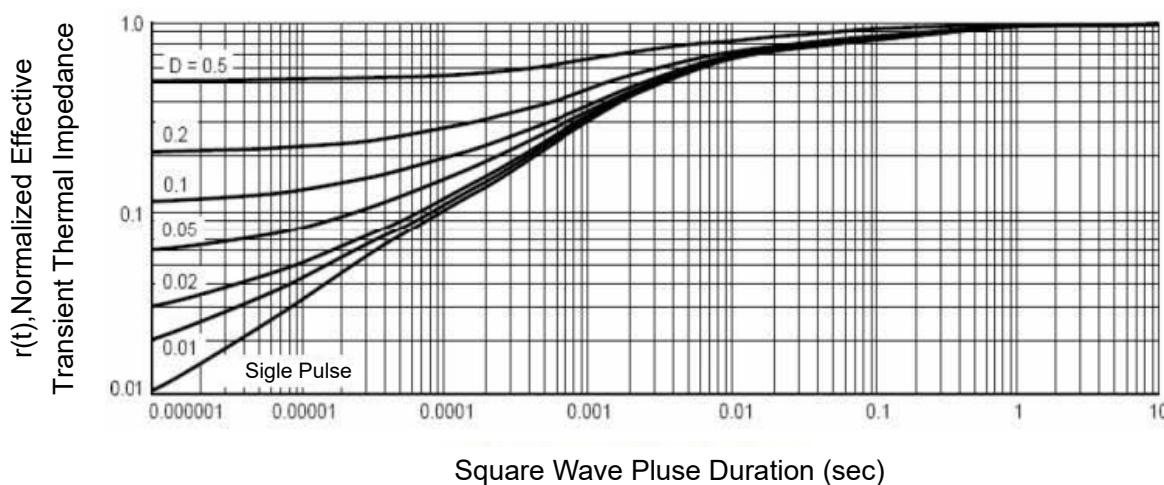
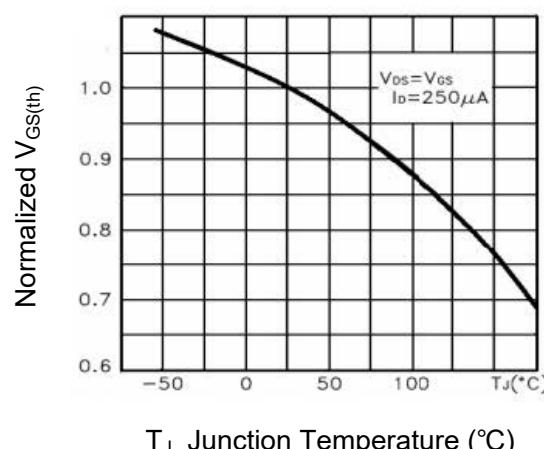
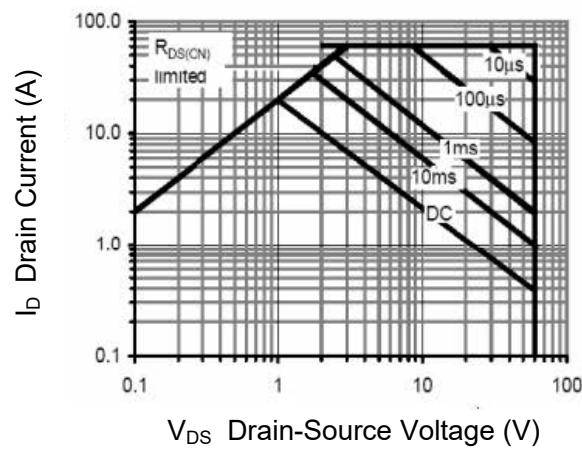
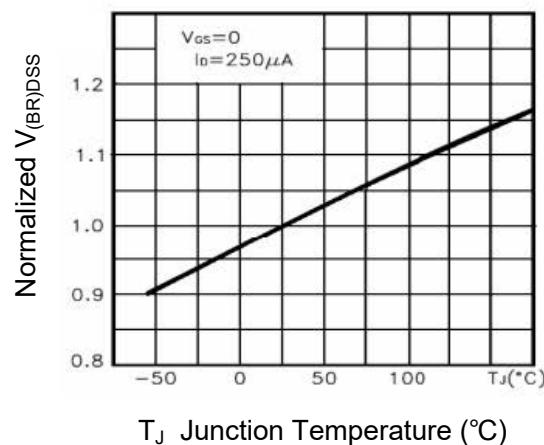
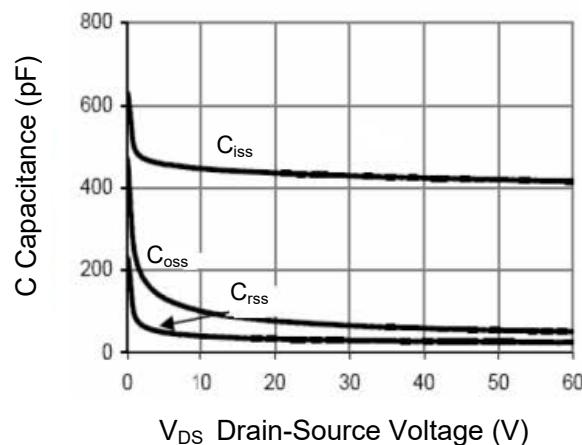
Typical Characteristic Curves





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Package Outline

TO-252

Dimensions in mm

