



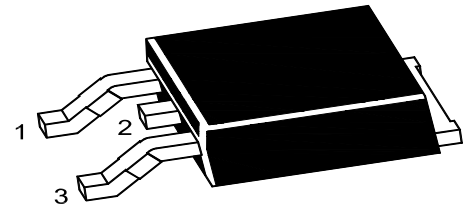
PJM10H40NTE

N-Channel Enhancement Mode Power MOSFET

Features

- Excellent package for good heat dissipation
- High density cell design for ultra low $R_{DS(on)}$
- $V_{DS} = 100V, I_D = 40A$
 $R_{DS(on)} < 17m\Omega @ V_{GS} = 10V$

TO-252

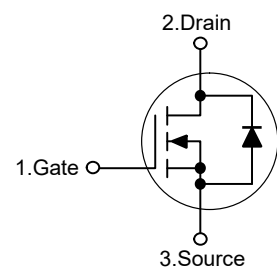


1. Gate 2.Drain 3.Source

Applications

- Power switching application
- Hard switched and high frequency circuits
- Uninterruptible power supply

Schematic Diagram



Absolute Maximum Ratings

Ratings at 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	40	A
Drain Current-Pulsed ^{Note1}	I_{DM}	160	A
Single pulse avalanche energy ^{Note4}	E_{AS}	520	mJ
Maximum Power Dissipation	P_D	140	W
Junction Temperature	T_J	175	°C
Storage Temperature Range	T_{STG}	-55 to +175	°C

Thermal Characteristics

Maximum Junction-to-Case ^{Note2}	$R_{\theta JC}$	1.12	°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	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	100	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=100V, V_{GS}=0V$	--	--	1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	--	--	± 0.1	μA
Gate Threshold Voltage ^{Note3}	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.9	--	2.5	V
Drain-Source On-Resistance ^{Note3}	$R_{DS(on)}$	$V_{GS}=10V, I_D=28A$	--	14	17	m Ω
Forward Transconductance ^{Note3}	g_{FS}	$V_{DS}=25V, I_D=28A$	32	--	--	S
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS}=25V, V_{GS}=0V, f=1MHz$	--	3400	--	pF
Output Capacitance	C_{oss}		--	290	--	pF
Reverse Transfer Capacitance	C_{rss}		--	221	--	pF
Switching Characteristics						
Turn-on Delay Time	$t_{d(on)}$	$V_{DD}=30V, V_{GS}=10V, I_D=2A$ $R_G=2.5\Omega, R_L=15\Omega$	--	15	--	nS
Turn-on Rise Time	t_r		--	11	--	nS
Turn-off Delay Time	$t_{d(off)}$		--	52	--	nS
Turn-off Fall Time	t_f		--	13	--	nS
Total Gate Charge	Q_g	$V_{DD}=30V, V_{GS}=10V, I_D=30A$	--	94	--	nC
Gate-Source Charge	Q_{gs}		--	16	--	nC
Gate-Drain Charge	Q_{gd}		--	24	--	nC
Source-Drain Diode Characteristics						
Diode Forward Voltage ^{Note3}	V_{SD}	$V_{GS}=0V, I_S=28A$	--	--	1.2	V
Diode Forward Current ^{Note2}	I_S		--	--	40	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 $\leq 2\%$

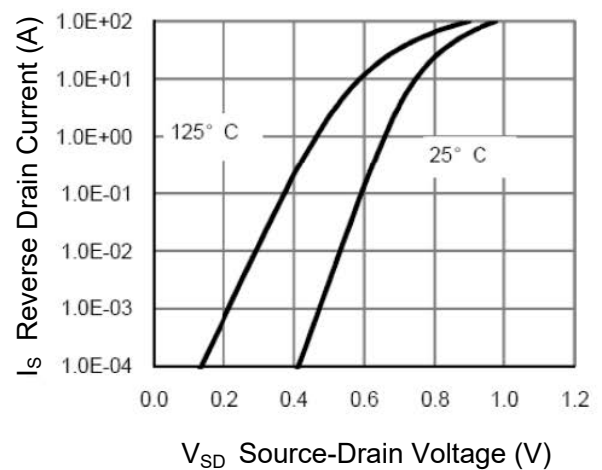
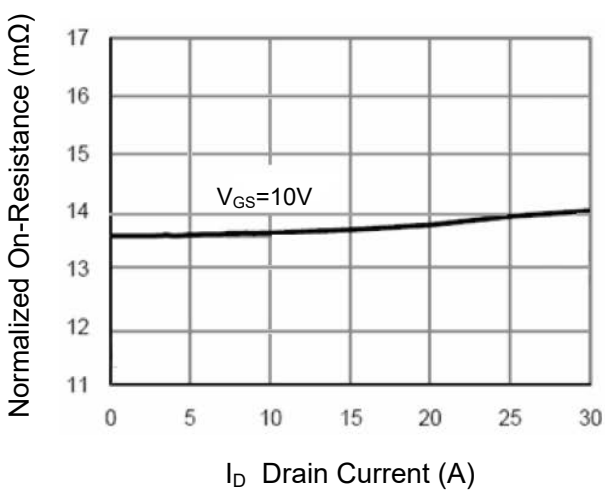
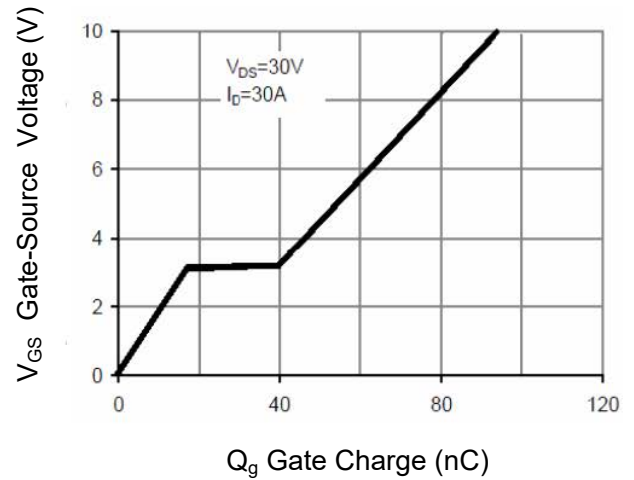
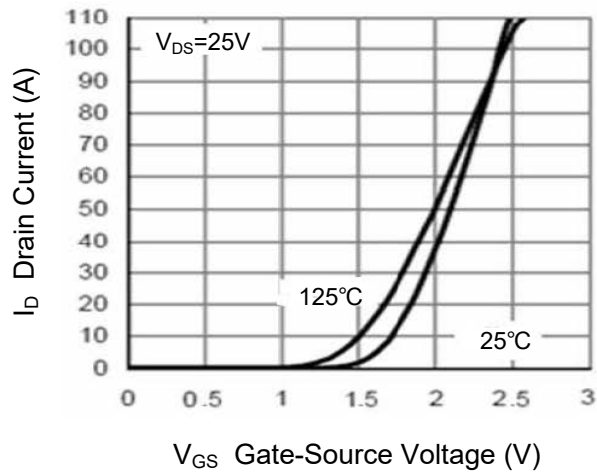
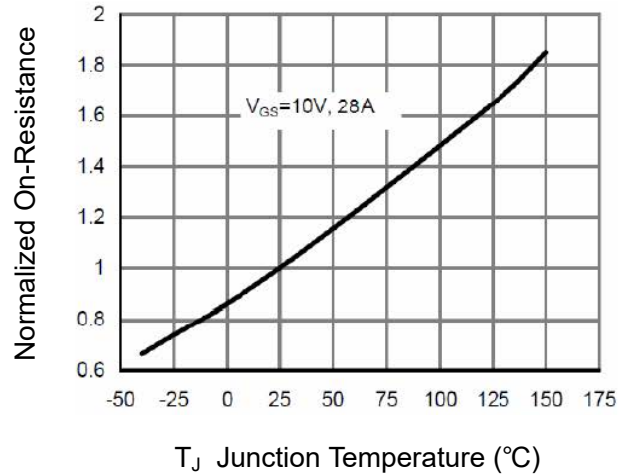
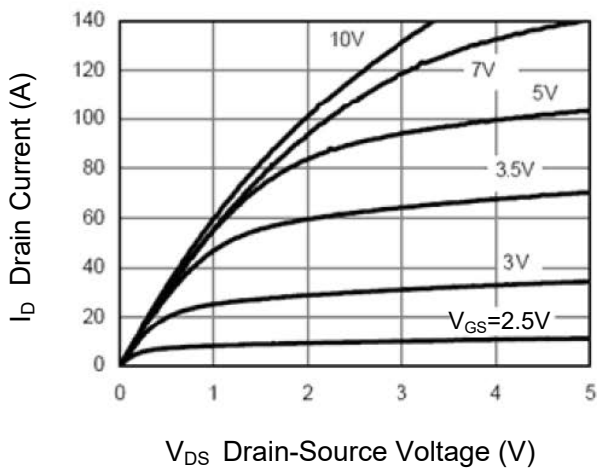
4. E_{AS} condition : $T_j=25^\circ C, V_{DD}=50V, V_G=10V, L=0.5mH, R_G=25\Omega$



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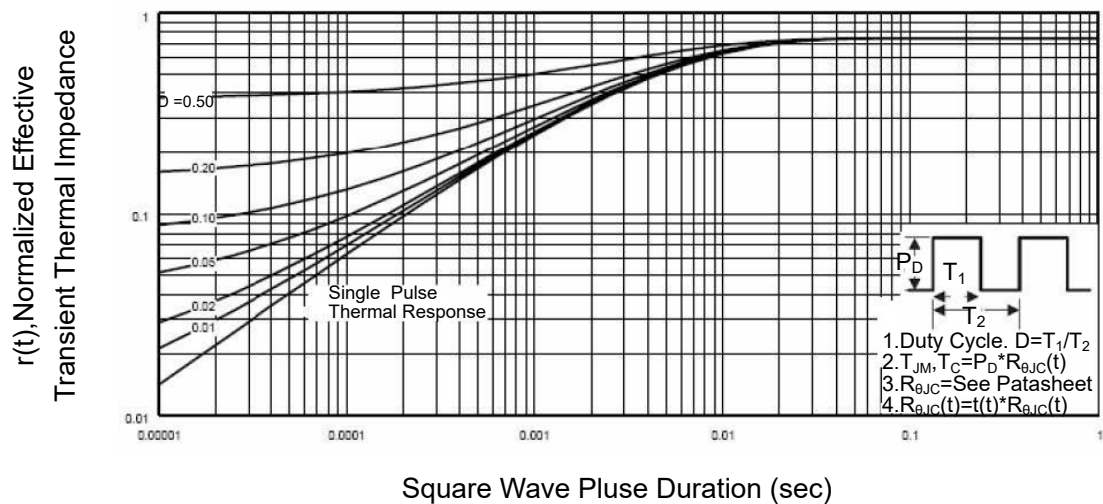
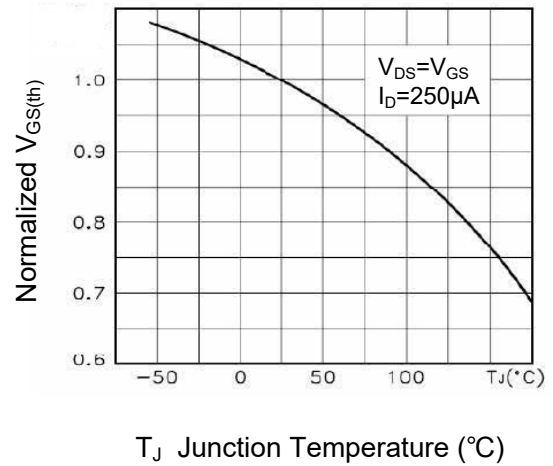
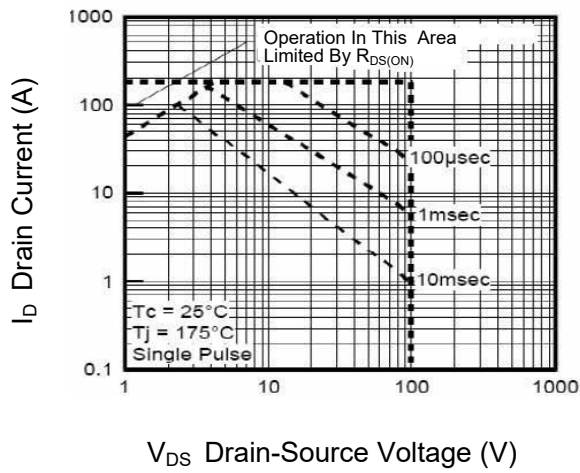
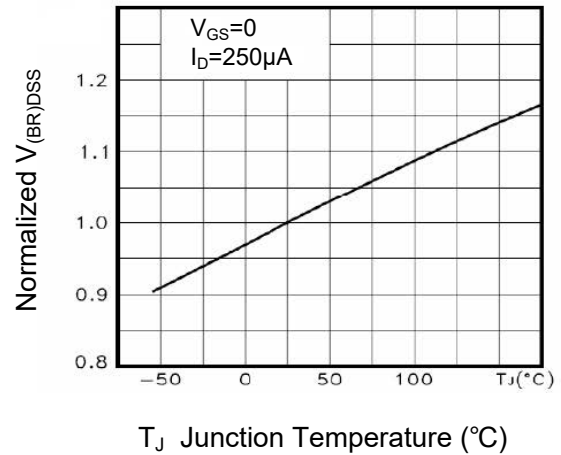
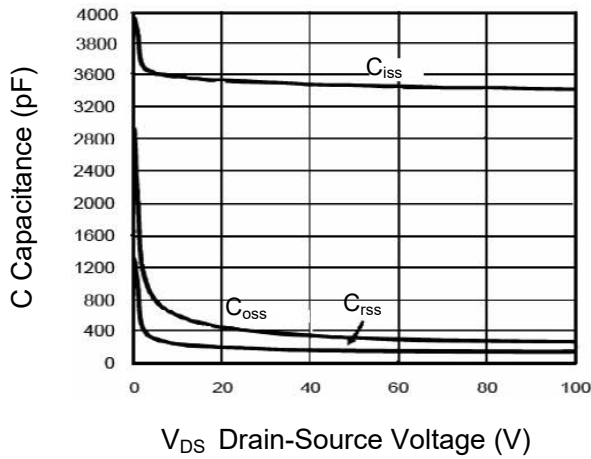
Typical Characteristic Curves





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Package Outline

TO-252

Dimensions in mm

