



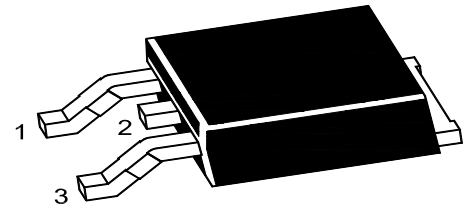
PJM70H04NTE

N-Channel Enhancement Mode Power MOSFET

Features

- Fast Switching
- Low Gate Charge and $R_{DS(on)}$
- Low Reverse transfer capacitances
- $V_{DS} = 700V, I_D = 4A$
 $R_{DS(on)} < 2.8\Omega @ V_{GS} = 10V$

TO-252

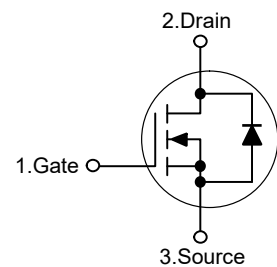


1. Gate 2. Drain 3. Source

Applications

- Power switch circuit of adaptor and charger

Schematic Diagram



Absolute Maximum Ratings

Unless otherwise specified, at $T_A = 25^\circ\text{C}$ ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	700	V
Gate-Source Voltage	V_{GS}	± 30	V
Drain Current-Continuous	I_D	4	A
Drain Current-Pulsed ^{Note1}	I_{DM}	16	A
Single pulse avalanche energy ^{Note4}	E_{AS}	150	mJ
Maximum Power Dissipation	P_D	70	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ\text{C}$

Thermal Characteristics

Thermal Resistance, Junction-to-Ambient ^{Note2}	$R_{\theta JA}$	62	$^\circ\text{C/W}$
Maximum Junction-to-Case ^{Note2}	$R_{\theta JC}$	1.78	$^\circ\text{C/W}$



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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	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	700	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=700V, V_{GS}=0V$	--	--	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}	$R_{DS(on)}$	$V_{GS}=10V, I_D=2A$	--	2.5	2.8	Ω
Forward Transconductance ^{Note3}	g_{FS}	$V_{DS}=30V, I_D=2A$	--	3	--	S
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS}=25V, V_{GS}=0V, f=1MHz$	--	500	--	pF
Output Capacitance	C_{oss}		--	50	--	pF
Reverse Transfer Capacitance	C_{rss}		--	20	--	pF
Switching Characteristics						
Turn-on Delay Time	$t_{d(on)}$	$V_{DD}=350V, I_D=4A$ $V_{GS}=10V, R_G=25\Omega$	--	12	--	nS
Turn-on Rise Time	t_r		--	17	--	nS
Turn-off Delay Time	$t_{d(off)}$		--	45	--	nS
Turn-off Fall Time	t_f		--	23	--	nS
Total Gate Charge	Q_g	$V_{DD}=350V, I_D=4A, V_{GS}10V$	--	15	--	nC
Gate-Source Charge	Q_{gs}		--	3	--	nC
Gate-Drain Charge	Q_{gd}		--	6	--	nC
Source-Drain Diode Characteristics						
Diode Forward Voltage ^{Note3}	V_{SD}	$V_{GS}=0V, I_S=4A$	--	--	1.5	V
Diode Forward Current ^{Note2}	I_S		--	--	4	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 < 380 μ s; duty cycle < 2%.

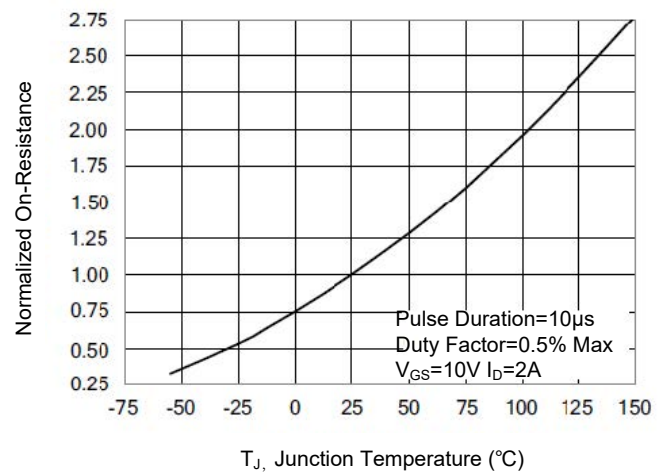
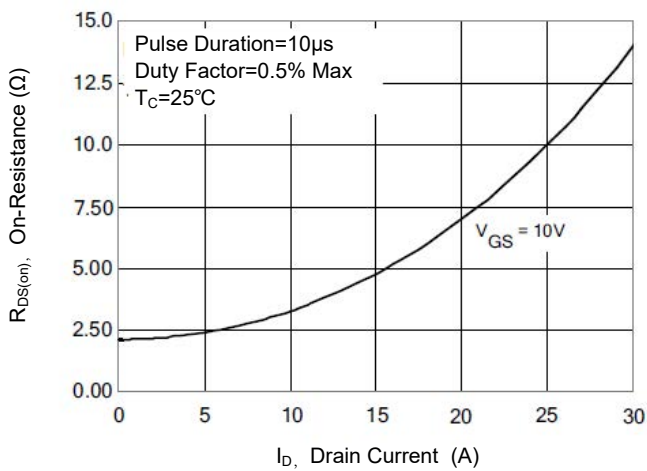
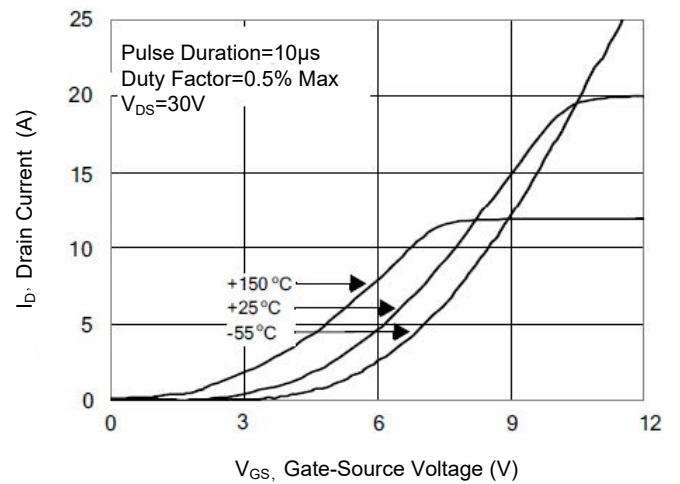
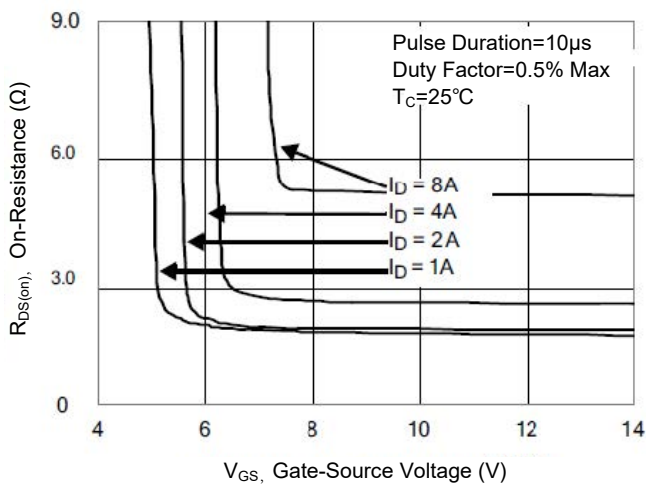
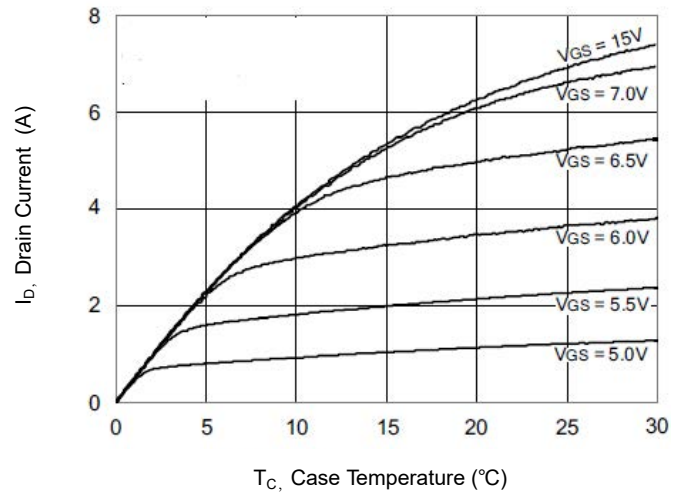
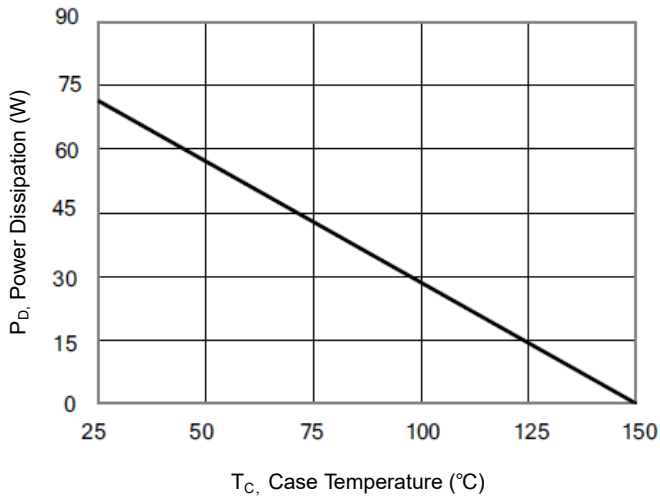
4. E_{AS} condition : L=10mH, $I_D=4A$, start $T_J=25^\circ C$.



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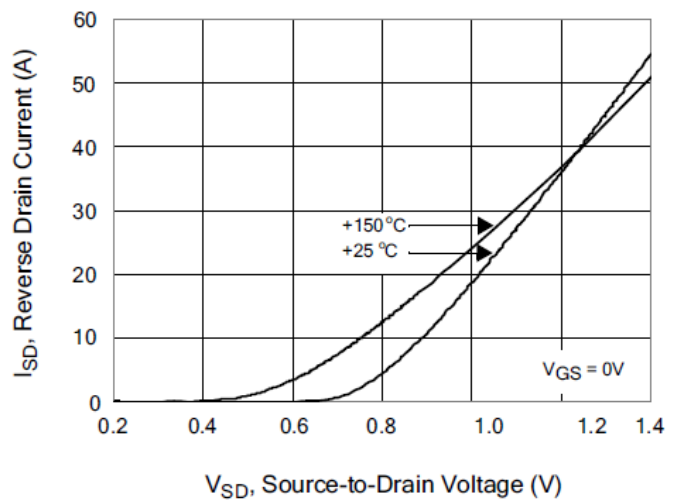
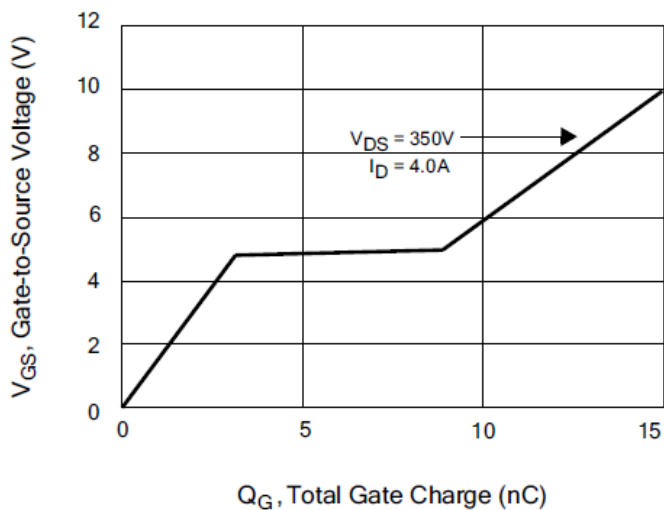
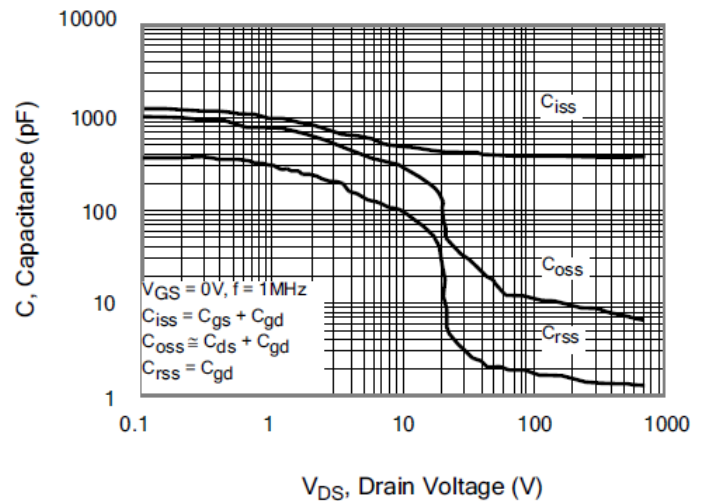
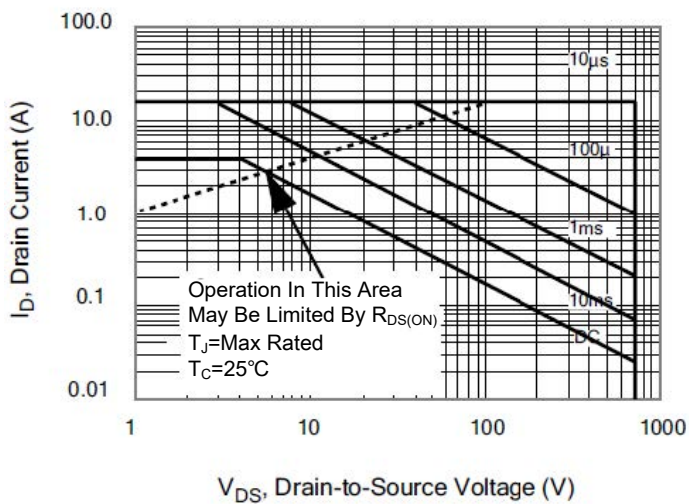
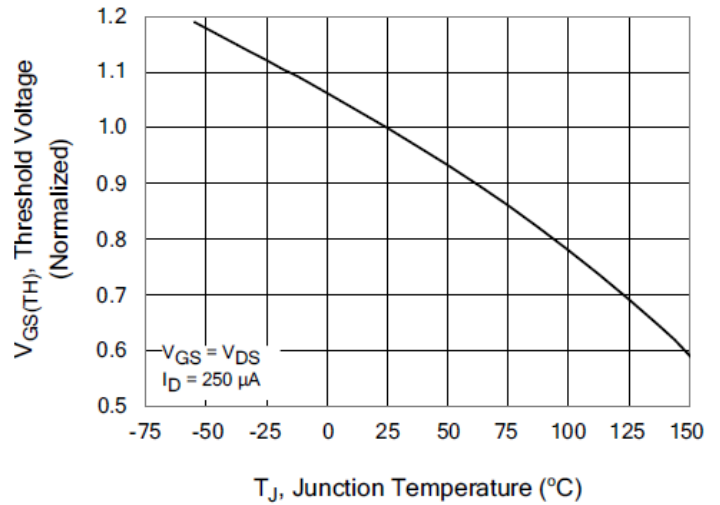
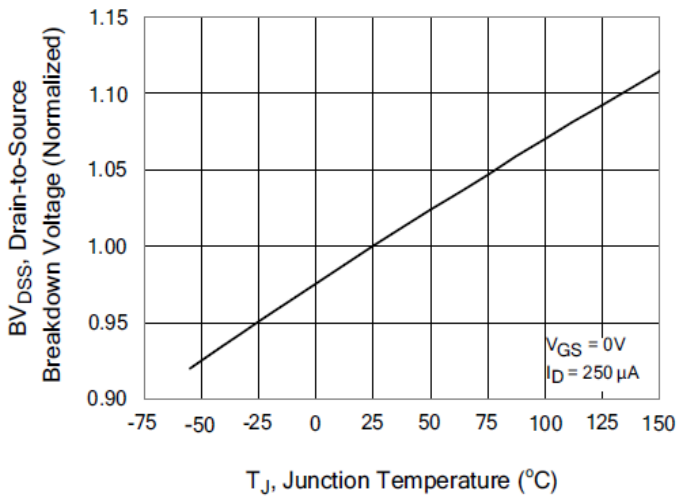
Typical Characteristic Curves





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Package Outline

TO-252

Dimensions in mm

