



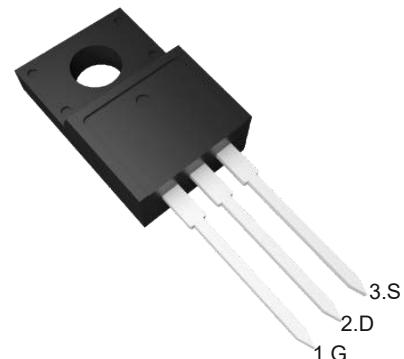
PJM65H12NTF

N-Channel Enhancement Mode Power MOSFET

Features

- Fast Switching
- Low Reverse transfer capacitances
- Low gate charge and low $R_{DS(on)}$
- $V_{DS} = 650V, I_D = 12A$
- $R_{DS(on)} < 0.65\Omega @ V_{GS} = 10V$

TO-220F

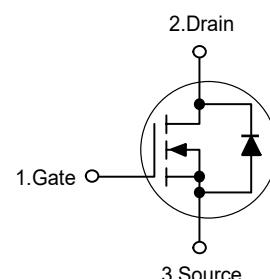


1.Gate 2.Drain 3.Source

Applications

- Power switch circuit of adaptor and charger

Schematic diagram



Absolute Maximum Ratings

Ratings at 25°C case 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	12	A
Drain Current-Pulsed ^{Note1}	I_{DM}	48	A
Single pulse avalanche energy ^{Note4}	E_{AS}	550	mJ
Maximum Power Dissipation	P_D	55	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}	$R_{\theta JC}$	2.98	°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	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} =±30V, V _{DS} =0V	--	--	±100	nA
Gate Threshold Voltage ^{Note3}	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	2	--	4	V
Drain-Source On-Resistance ^{Note3}	R _{DS(on)}	V _{GS} =10V, I _D =6A	--	0.58	0.65	Ω
Forward Transconductance ^{Note3}	g _{FS}	V _{DS} =15V, I _D =6A	--	12	--	S
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =25V, V _{GS} =0V, f=1MHz	--	1993	--	pF
Output Capacitance	C _{oss}		--	160	--	pF
Reverse Transfer Capacitance	C _{rss}		--	9.5	--	pF
Switching Characteristics						
Turn-on Delay Time	t _{d(on)}	V _{DD} =325V, I _D =12A, V _{GS} =10V, R _G =10Ω	--	28	--	nS
Turn-on Rise Time	t _r		--	26	--	nS
Turn-off Delay Time	t _{d(off)}		--	64	--	nS
Turn-off Fall Time	t _f		--	45	--	nS
Total Gate Charge	Q _g	V _{DD} =325V, I _D =12A, V _{GS} =10V	--	34	--	nC
Gate-Source Charge	Q _{gs}		--	10	--	nC
Gate-Drain Charge	Q _{gd}		--	14	--	nC
Source-Drain Diode Characteristics						
Diode Forward Voltage ^{Note3}	V _{SD}	V _{GS} =0V, I _s =12A	--	--	1.5	V
Diode Forward Current ^{Note2}	I _s		--	--	12	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%.

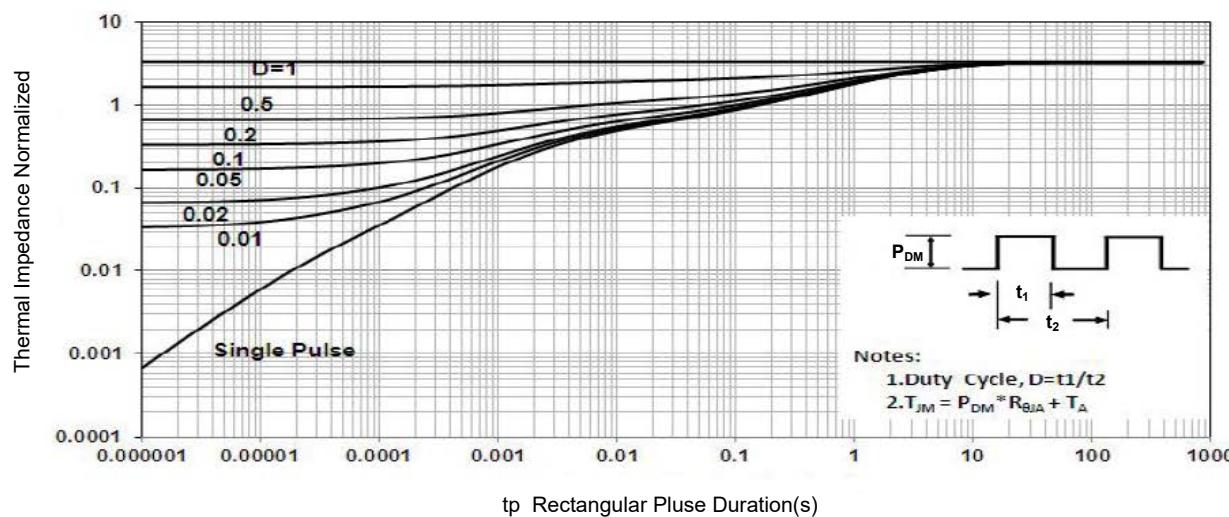
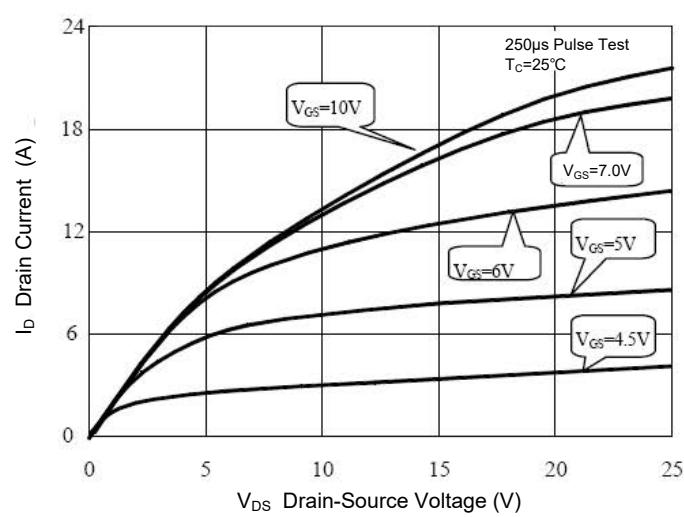
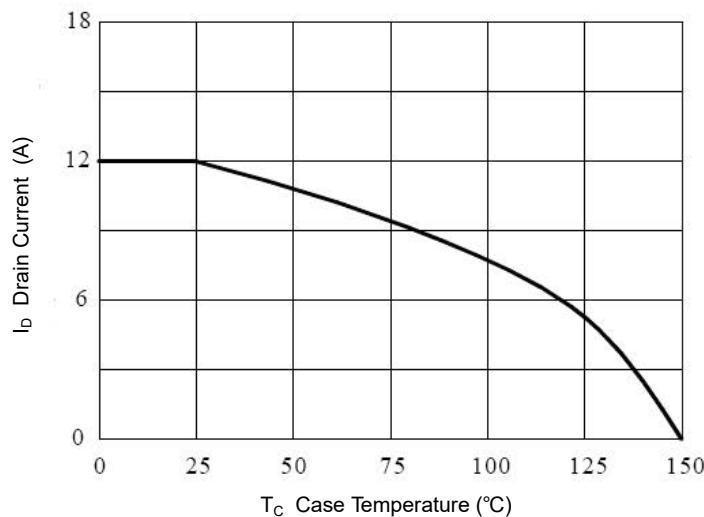
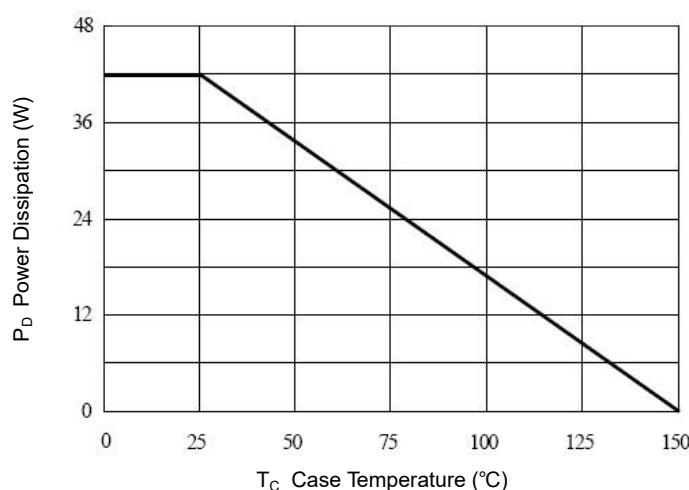
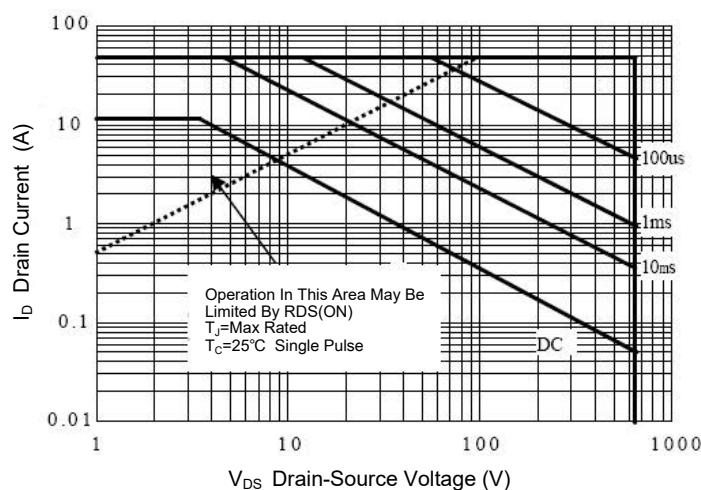
4. E_{AS} Condition:L=10mH, I_D=11.8A, start T_J=25°C.



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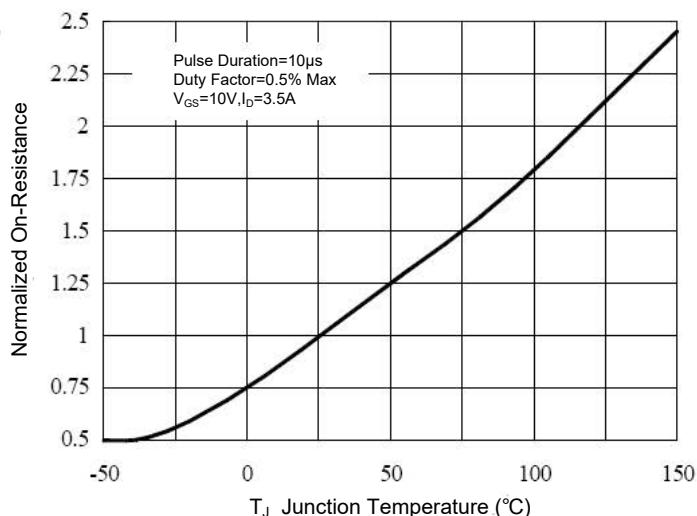
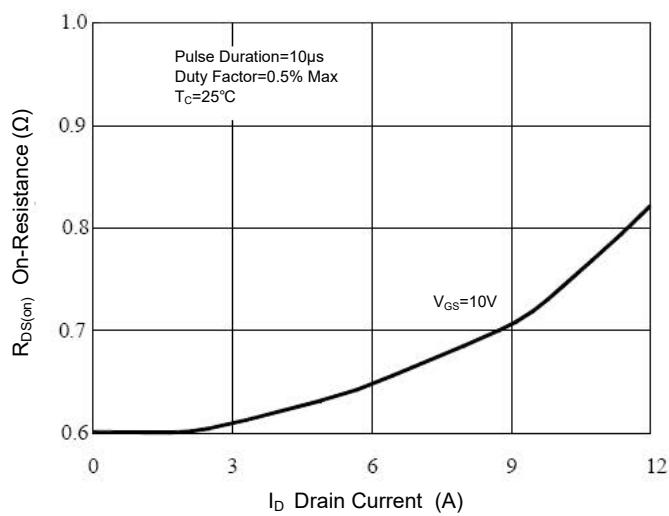
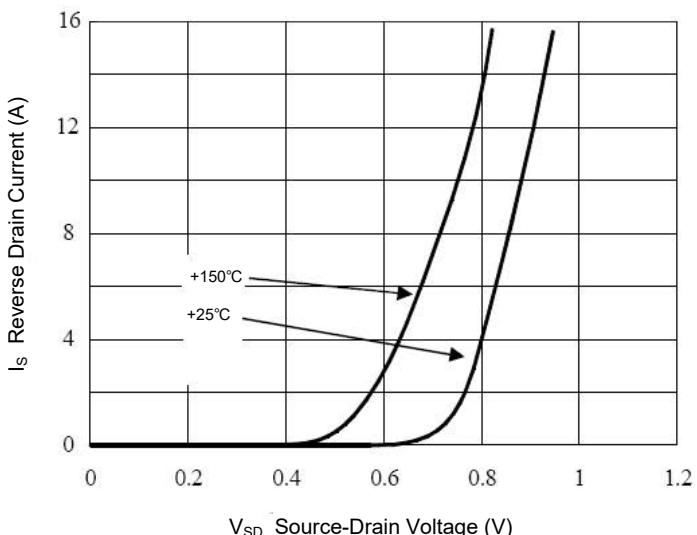
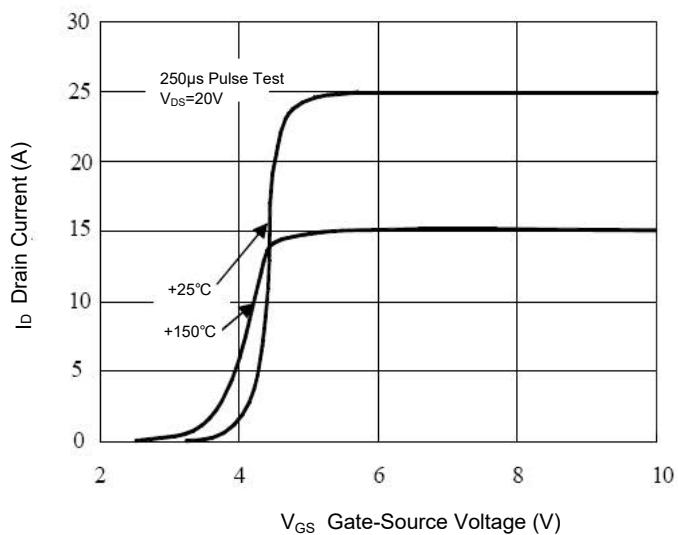
Typical Characteristic Curves





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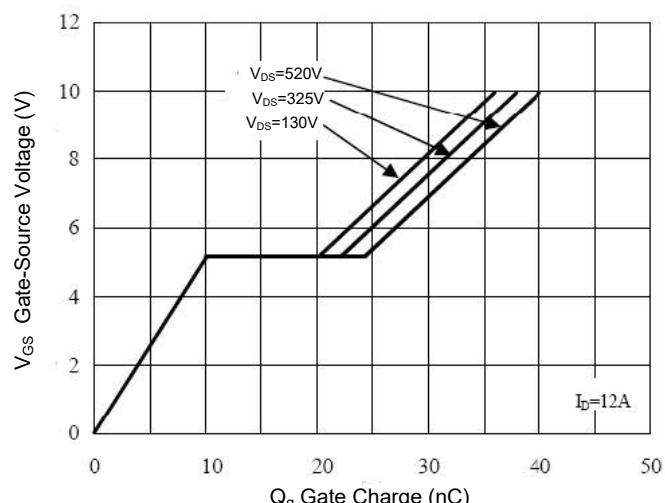
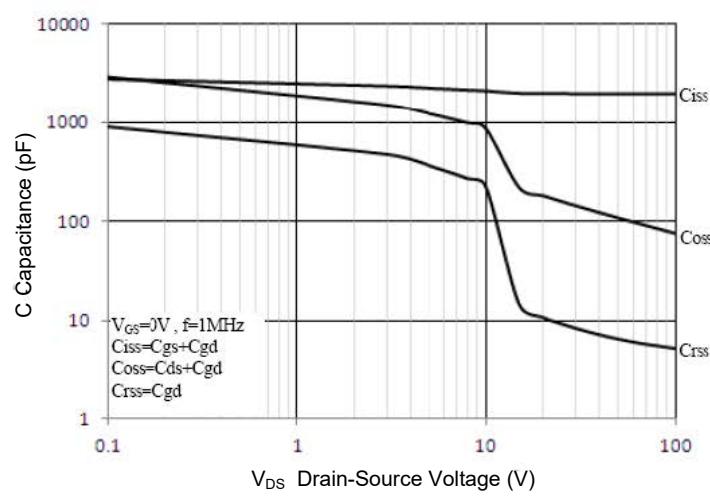
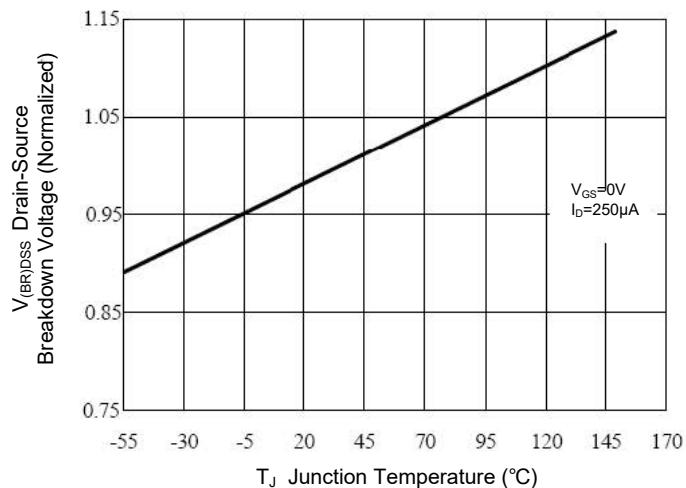
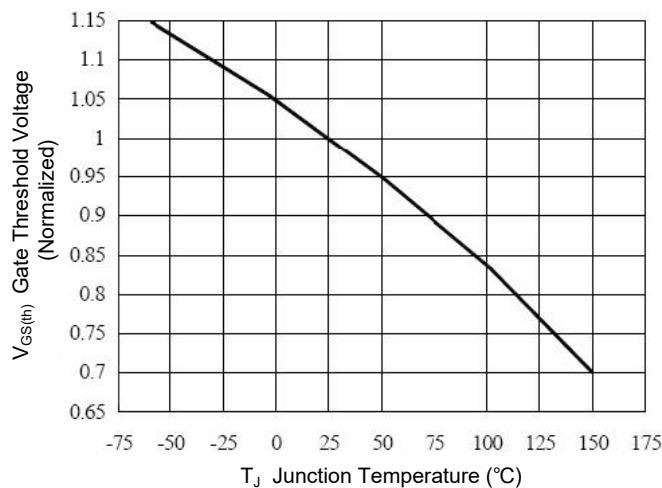
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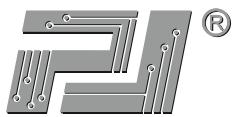




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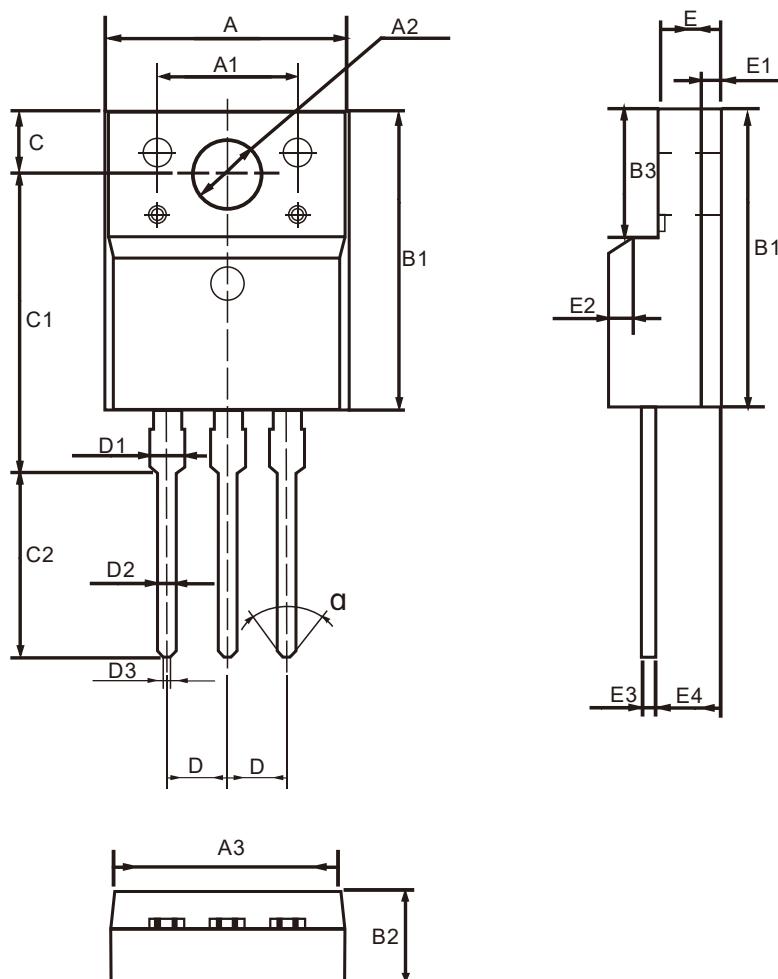




Package Outline

TO-220F

Dimensions in mm



TO-220F Package Dimensions

UNIT : mm

SYMBOL	min	nom	max	SYMBOL	min	nom	max
A	9.80		10.60	D		2.54	
A1		7.00		D1	1.15		1.55
A2	2.90		3.40	D2	0.60		1.00
A3	9.10		9.90	D3	0.20		0.50
B1	15.40		16.40	E	2.24		2.84
B2	4.35		4.95	E1		0.70	
B3	6.00		7.40	E2		1.0 × 45°	
C	3.00		3.70	E3	0.35		0.65
C1	15.00		17.00	E4	2.30		3.30
C2	8.80		10.80	α (度)		30°	