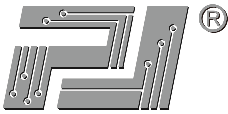


PJM65H02NTE
N-Channel Enhancement Mode Power MOSFET

Product Summary

- V_{DS}= 650V,I_D= 2A
- $R_{DS(on)}$< 5.3Ω @V_{GS}= 10V

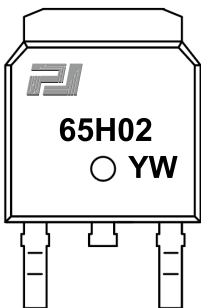
Features

- Advanced Planar Technology
- 100% Avalanche Tested
- RoHS and Reach Compliant
- Halogen and Antimony Free
- Moisture Sensitivity Level 3

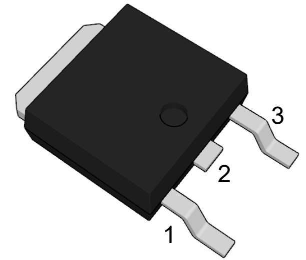
Application

- Load Switch
- PWM Application
- Power management

Marking Code



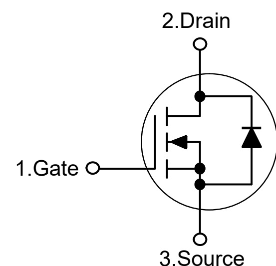
TO-252



(Top View)

Pin	Description
1	Gate
2	Drain
3	Source

Schematic Diagram



Absolute Maximum Ratings

Ratings at 25℃ 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	2	A
Drain Current-Pulsed Note1	I_{DM}	8	A
Single Pulse Avalanche Energy Note2	E_{AS}	3.2	mJ
Maximum Power Dissipation	P_D	35	W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Thermal Characteristics

Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	3.6	°C/W

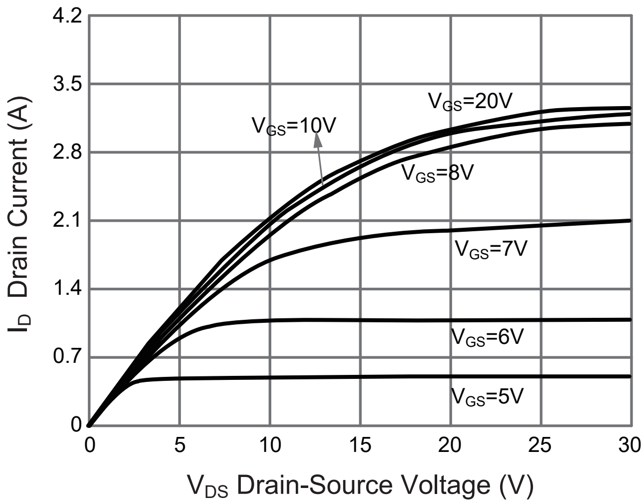
Electrical Characteristics

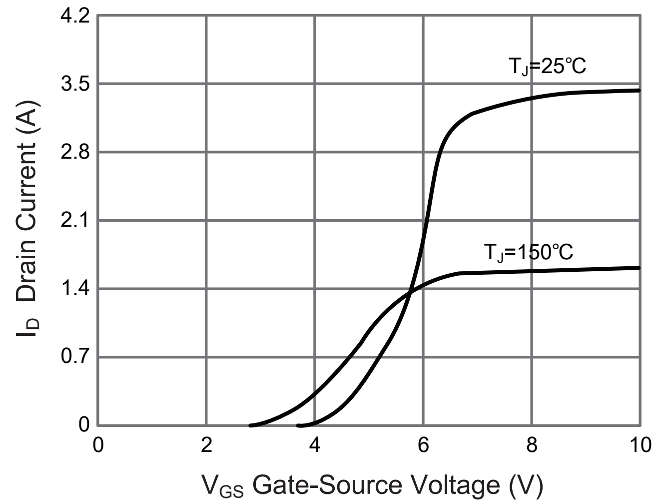
(T_J=25℃ unless otherwise specified)

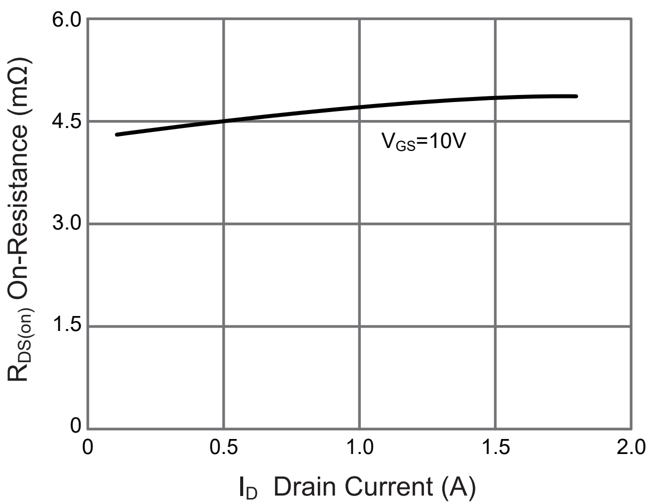
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V,I_D=250μA	650	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=650V,V_{GS}=0V	--	--	1	μA
Gate-Body Leakage Current	I_{GSS}	V_{GS}=±30V,V_{DS}=0V	--	--	±100	nA
Gate Threshold Voltage Note3	$V_{GS(th)}$	V_{DS}=V_{GS},I_D=250μA	3.5	4.5	5.5	V
Drain-Source On-Resistance Note3	$R_{DS(on)}$	V_{GS}=10V,I_D=1A	--	4.7	5.3	Ω
Forward Transconductance Note3	g_{FS}	V_{DS}=5V,I_D=1A	1	--	--	S
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS}=25V,V_{GS}=0V,f=1MHz	--	381	--	pF
Output Capacitance	C_{oss}		--	35.5	--	pF
Reverse Transfer Capacitance	C_{rss}		--	6	--	pF
Gate Resistance	R_G	V_{DS}=0V,V_{GS}=0V,f=1MHz	--	4.5	--	Ω
Total Gate Charge	Q_g	V_{DS}=520V, I_D=2A, V_{GS}=10V	--	9.5	--	nC
Gate-Source Charge	Q_{gs}		--	1.5	--	nC
Gate-Drain Charge	Q_{gd}		--	4.9	--	nC
Switching Characteristics						
Turn-on Delay Time	$t_{d(on)}$	V_{DD}=325V, I_D=2A, R_{GEN}=10Ω	--	11	--	nS
Turn-on Rise Time	t_r		--	13	--	nS
Turn-off Delay Time	$t_{d(off)}$		--	29	--	nS
Turn-off Fall Time	t_f		--	12	--	nS
Source-Drain Diode Characteristics						
Diode Forward Voltage Note3	V_{SD}	V_{GS}=0V,I_S=2A	--	--	1.4	V
Diode Forward Current	I_S		--	--	2	A

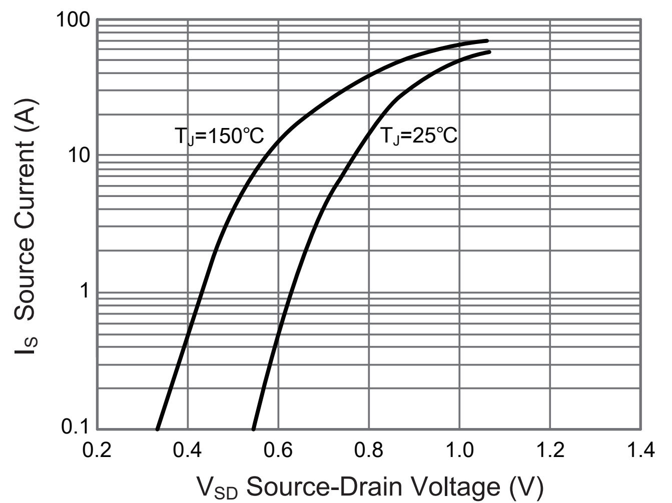
Note: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. EAS Condition: T_J=25℃,V_{DD}=100V,V_G=10V,L=10mH,R_G=25Ω,I_{AS}=0.8A.
3. Pulse Test: Pulse Width≤300μs, Duty Cycle≤0.5%.

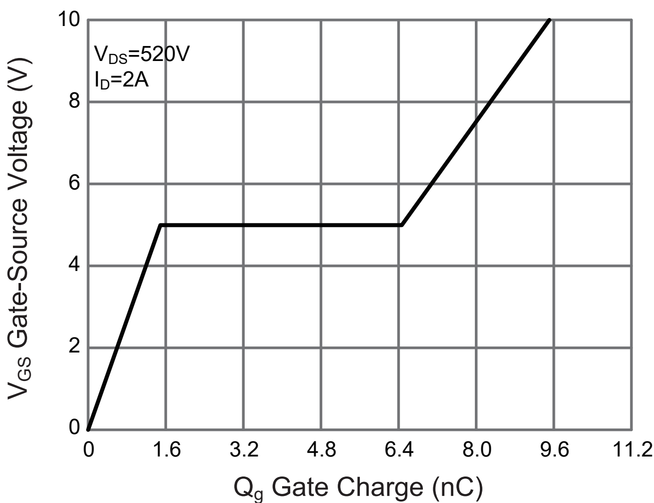
Typical Characteristic Curves

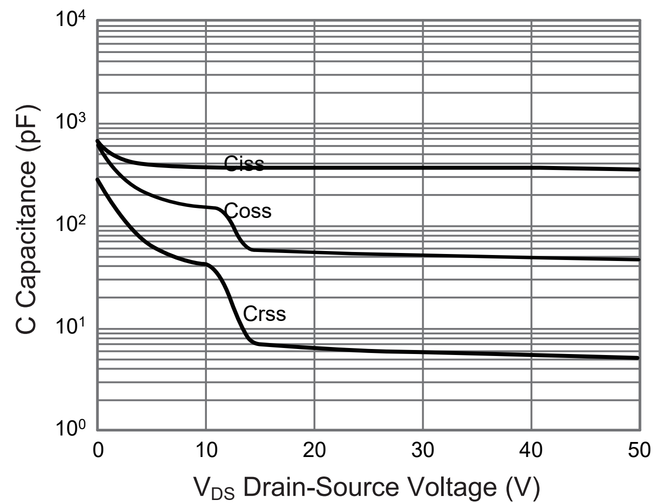


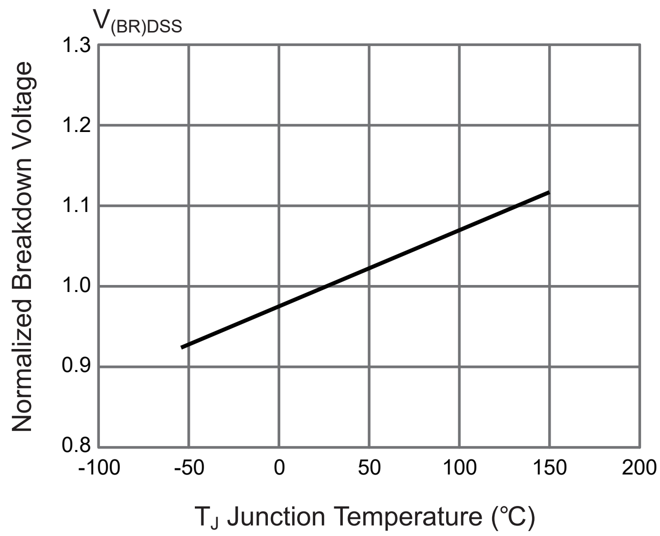




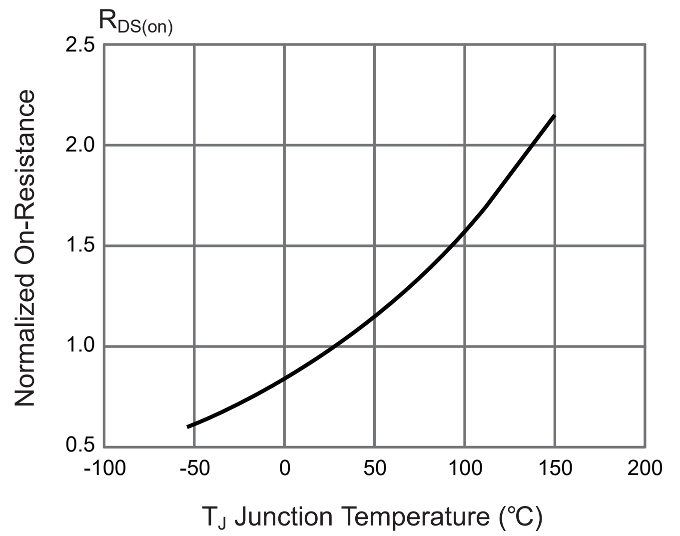








V(BR)DSS
Normalized Breakdown Voltage
1.3
1.2
1.1
1.0
0.9
0.8
-100
-50
0
50
100
150
200
TJ Junction Temperature (℃)

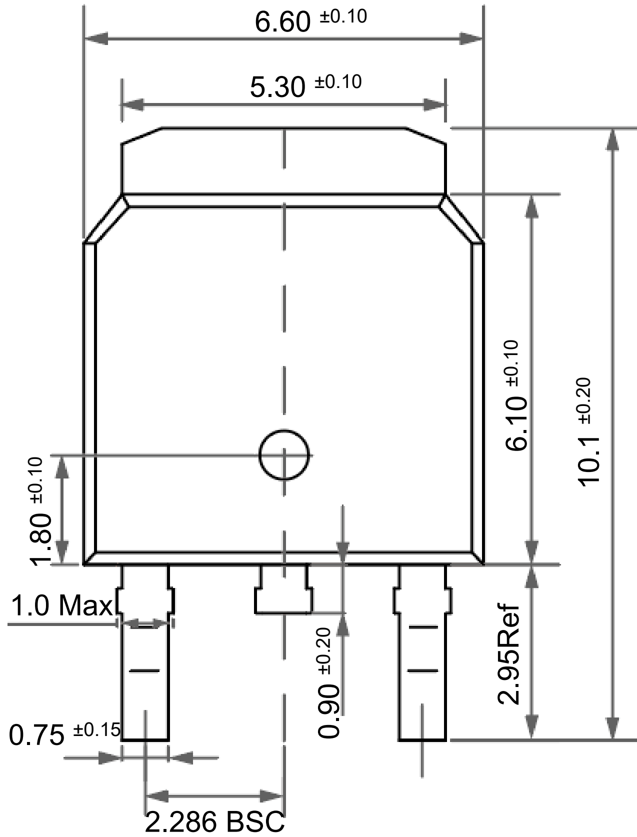


RDS(on)
Normalized On-Resistance
2.5
2.0
1.5
1.0
0.5
-100
-50
0
50
100
150
200
TJ Junction Temperature (℃)

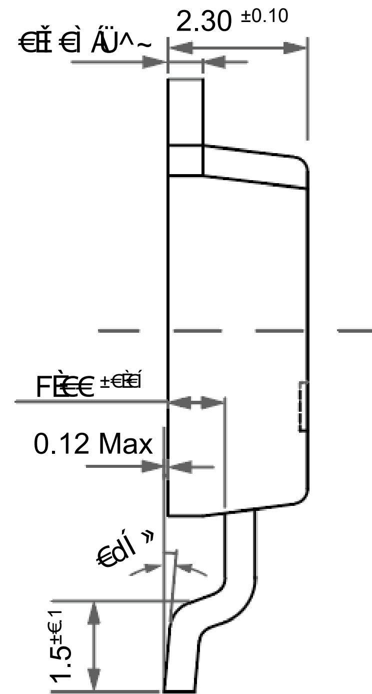
Package Outline

TO-252

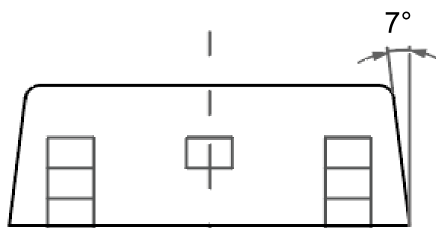
Dimensions in mm



Front View



Side View



Bottom View

Ordering Information

Device	Package	Shipping
PJM65H02NTE	TO-252	2,500PCS/Reel&13inches