



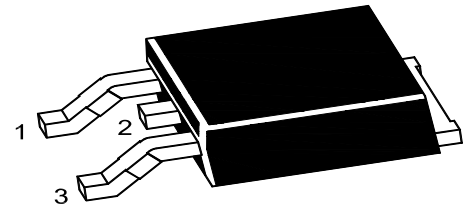
PJM50H08NTE

N-Channel Enhancement Mode Power MOSFET

Features

- Fast Switching
- Low Gate Charge and $R_{DS(on)}$
- Low Reverse transfer capacitances
- $V_{DS} = 500V, I_D = 8A$
 $R_{DS(on)} < 0.75\Omega @ V_{GS} = 10V$

TO-252

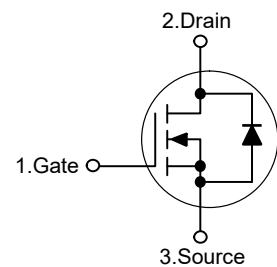


1. Gate 2.Drain 3.Source

Applications

- Power switch circuit of adaptor and charger

Schematic Diagram



Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	500	V
Gate-Source Voltage	V_{GS}	± 30	V
Drain Current-Continuous	I_D	8	A
Drain Current-Pulsed ^{Note1}	I_{DM}	32	A
Single pulse avalanche energy ^{Note4}	E_{AS}	750	mJ
Avalanche energy, Repetitive ^{Note1}	E_{AR}	70	mJ
Avalanche Current ^{Note1}	I_{AR}	3.5	A
Maximum Power Dissipation	P_D	95	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	°C/W
Maximum Junction-to-Case ^{Note2}	$R_{\theta JC}$	1.32	°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	500	--	--	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =500V,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	3	4	V
Drain-Source On-Resistance ^{Note3}	R _{DS(on)}	V _{GS} =10V,I _D =4A	--	--	0.75	Ω
Forward Transconductance ^{Note3}	g _{FS}	V _{DS} =15V,I _D =4A	--	10	--	S
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =25V,V _{GS} =0V,f=1MHz	--	1150	--	pF
Output Capacitance	C _{oss}		--	90	--	pF
Reverse Transfer Capacitance	C _{rss}		--	11	--	pF
Switching Characteristics						
Turn-on Delay Time	t _{d(on)}	V _{DD} =325V, I _D =8A V _{GS} =10V,R _G =9.1Ω	--	11	--	nS
Turn-on Rise Time	t _r		--	21	--	nS
Turn-off Delay Time	t _{d(off)}		--	36	--	nS
Turn-off Fall Time	t _f		--	20	--	nS
Total Gate Charge	Q _g	V _{DD} =325V,I _D =8A, V _{GS} =10V	--	25	--	nC
Gate-Source Charge	Q _{gs}		--	6	--	nC
Gate-Drain Charge	Q _{gd}		--	9	--	nC
Source-Drain Diode Characteristics						
Diode Forward Voltage ^{Note3}	V _{SD}	V _{GS} =0V,I _S =8A	--	--	1.5	V
Diode Forward Current ^{Note2}	I _S		--	--	8	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 $< 380\mu s$, duty cycle $< 2\%$

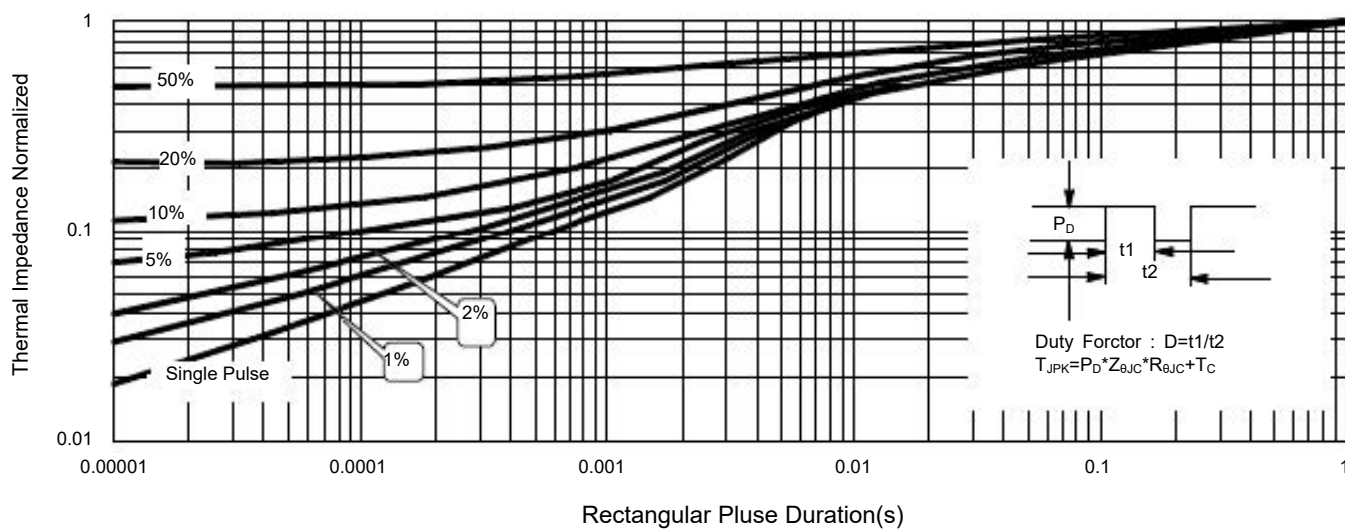
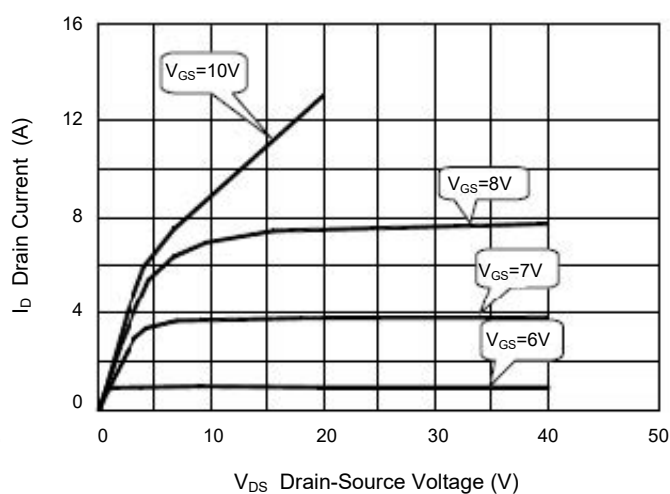
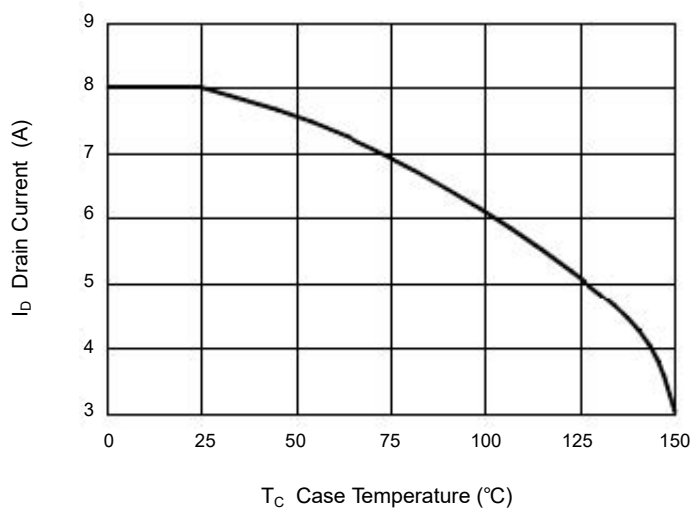
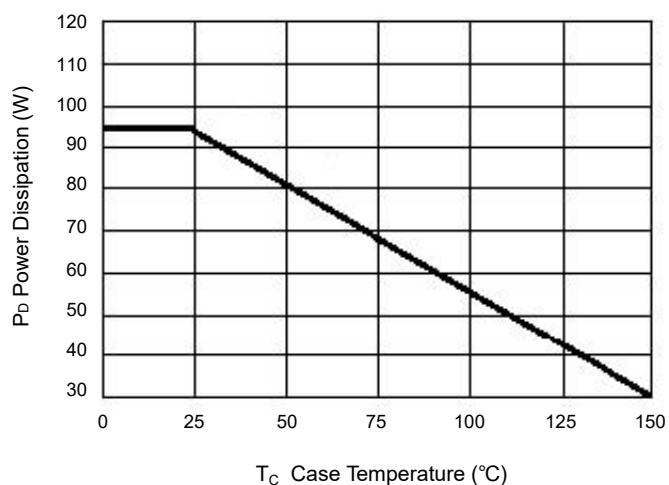
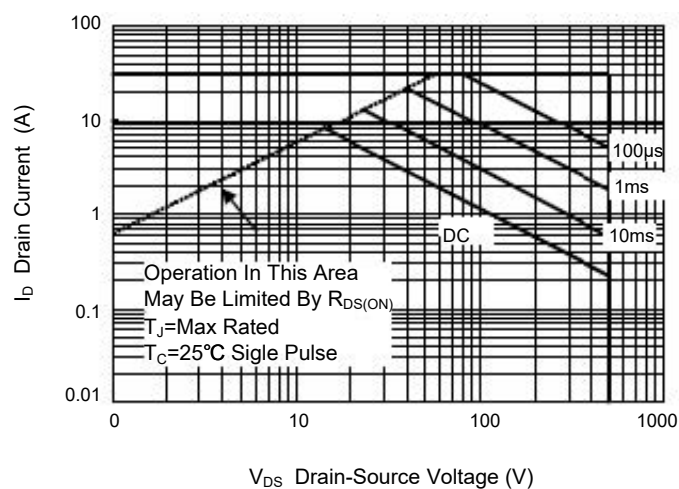
4. E_{AS} condition : $L=10.0mH, I_D=12.0A$, Start $T_J=25^\circ C$.



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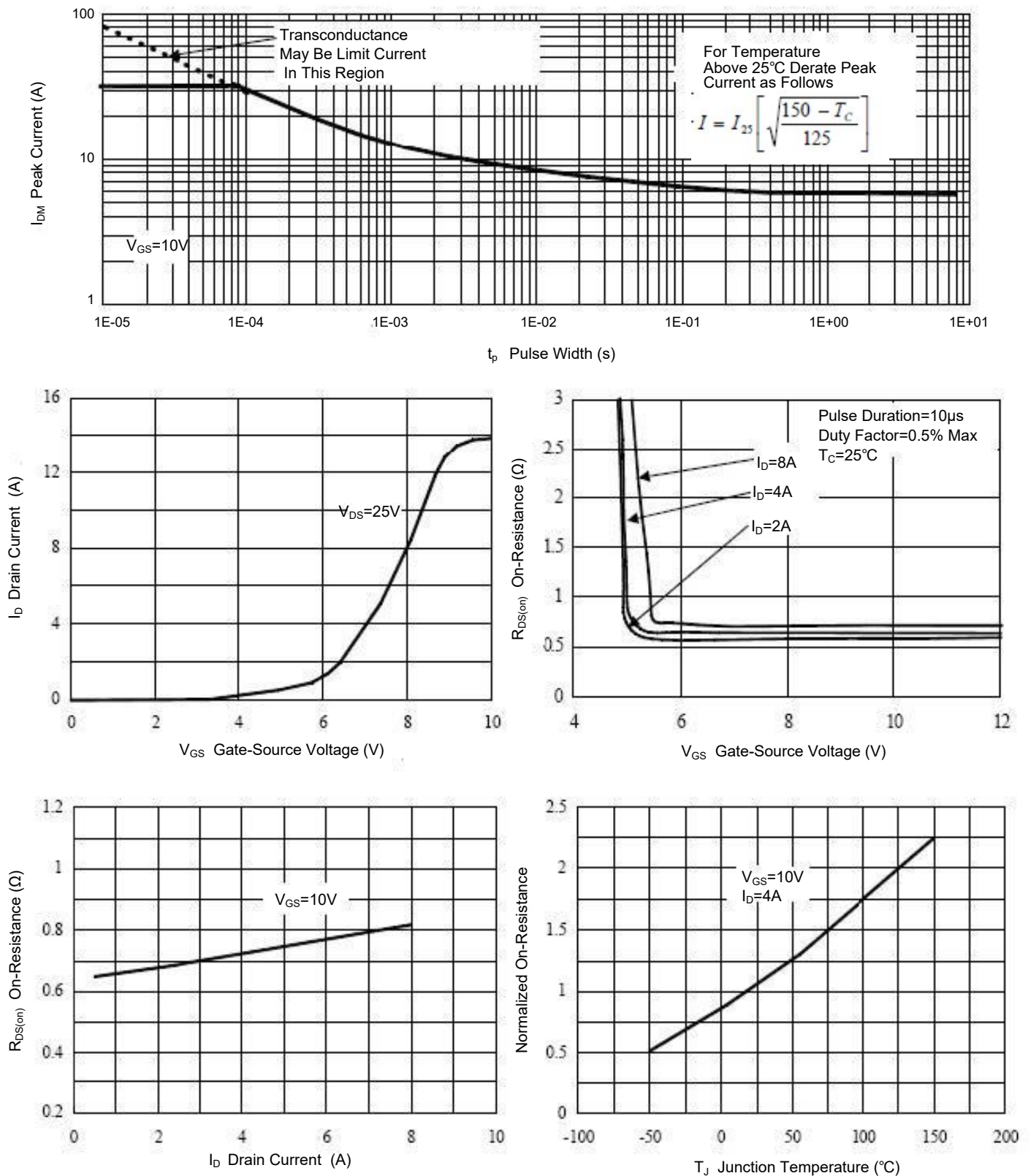
Typical Characteristic Curves





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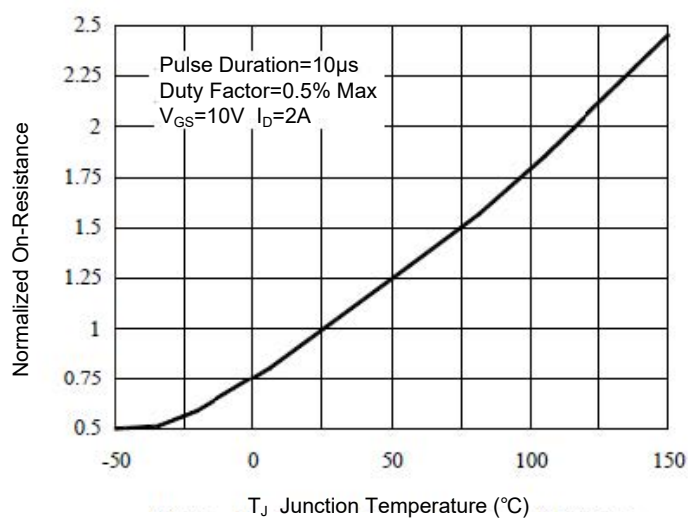
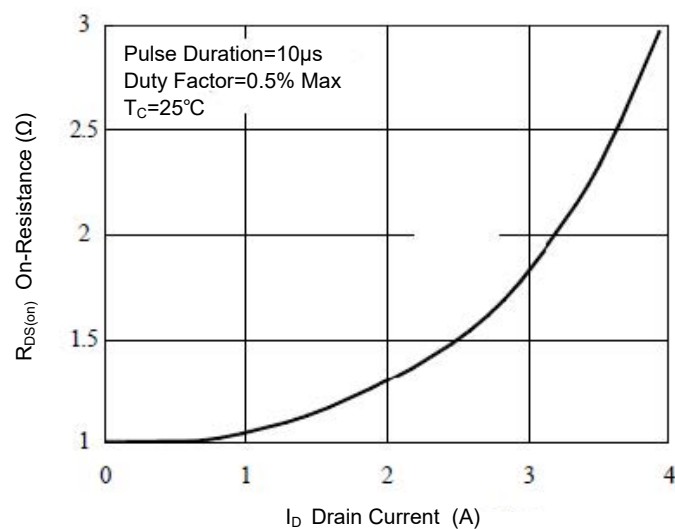
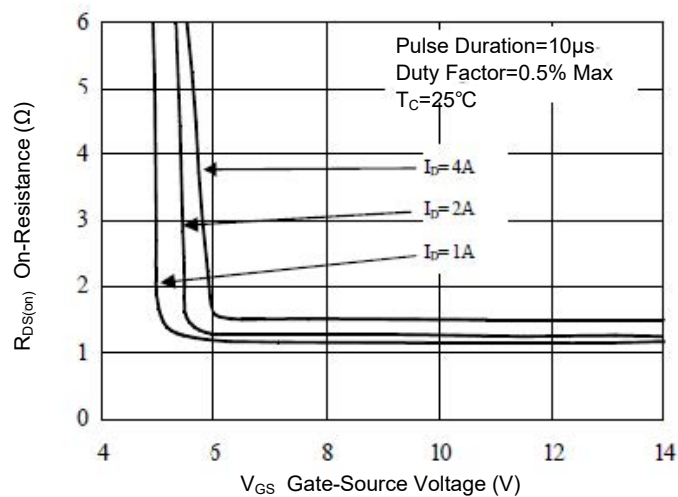
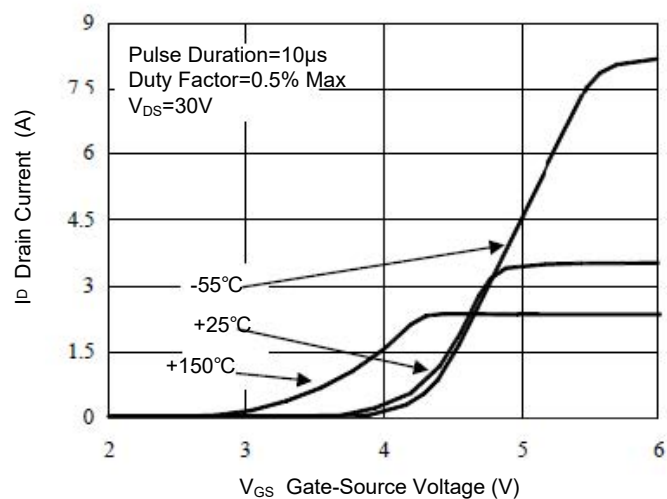
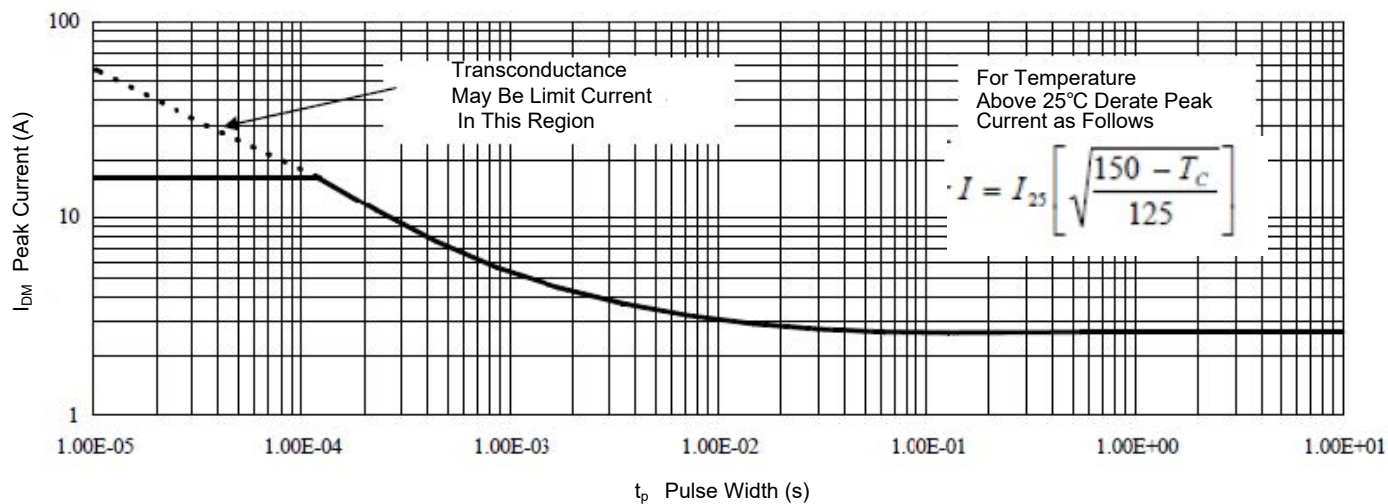
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Package Outline

TO-252

Dimensions in mm

