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1 Absolute Maximum Ratings

Table 2 Absolute Maximum Ratings

Symbol	Parameter	Value	Unit
V_R	DC reverse voltage (per leg)	100	V
V_{RWM}	Working peak reverse voltage (per leg)	100	V
$I_{F(AV)}$	Max. average forward current (per package) [1] - Refer to Fig. 5	30	A
I_{FSM}	Max. peak one cycle non–repetitive surge current (per leg) [2]	100	A
T_J T_{STG}	Operating Junction and Storage Temperature Range	-65 to 150	°C
	Weight	1.0 (Typical)	g

[1] 50% duty cycle @ T_C = 83°C, square waveform

[2] t_p = 8.3 ms half-sine

2 Device Characteristics

2.1 Electrical Characteristics

Table 3 Electrical Characteristics

Symbol	Parameter	Max.	Unit	Test Conditions	
V_F	Forward Voltage Drop (Per Leg) See Fig. 1[1]	0.95	V	@5.0A	T_J = -55°C
		1.18	V	@15A	
		1.43	V	@30A	
		0.77	V	@5.0A	T_J = 25°C
		1.03	V	@15A	
		1.27	V	@30A	
		0.65	V	@5.0A	T_J = 125°C
		0.77	V	@15A	
		0.95	V	@30A	
I_R	Reverse Leakage Current (Per Leg) See Fig. 2[1]	0.01	mA	T_J = 25°C	V_R = rated V_R
		1.19	mA	T_J = 100°C	
		5.0	mA	T_J = 125°C	
C_J	Junction Capacitance (Per Leg)	275	pF	V_R = 5V_{DC} (1MHz, 25°C)	
L_S	Series Inductance (Per Leg)	4.8(Typical)	nH	Measured from center of cathode pad to center of anode pad	

2.2 Thermal-Mechanical Specifications

Table 4 Thermal-Mechanical Specifications

Symbol	Parameter	Max.	Unit	Test Conditions
$R_{\theta JC}$	Thermal Resistance, Junction to Case (Per Leg)	3.5	°C/W	DC operation See Fig. 4
$R_{\theta JC}$	Thermal Resistance, Junction to Case (Per Package)	1.75	°C/W	DC operation
	Die Size (Typical)	84 x 84	mils	

[1] Pulse Width < 300µs, Duty Cycle < 2%

3 Electrical Characteristics Curves

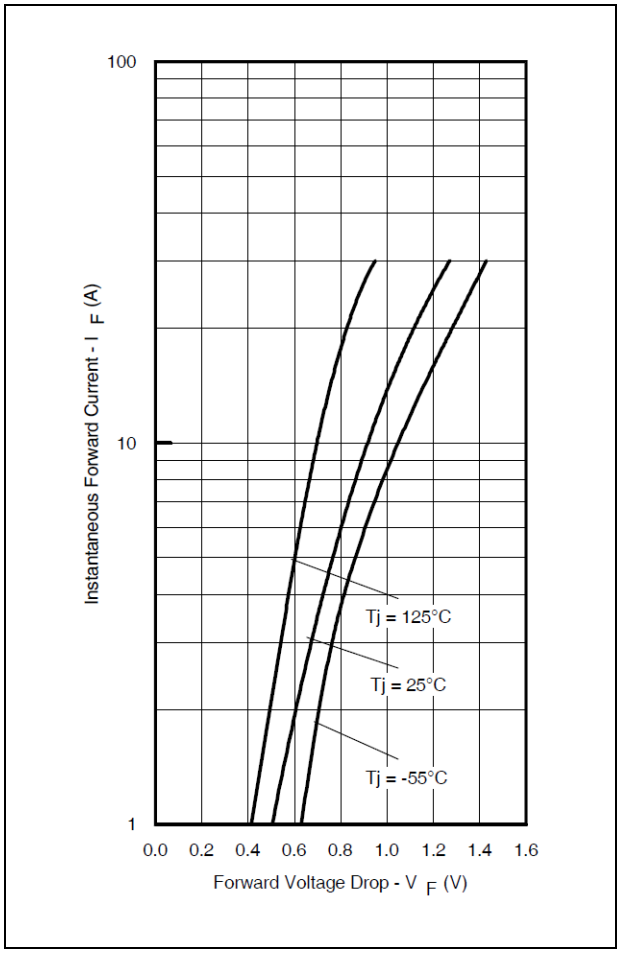


Figure 1 Maximum Forward Voltage Drop Characteristics (Per Leg)

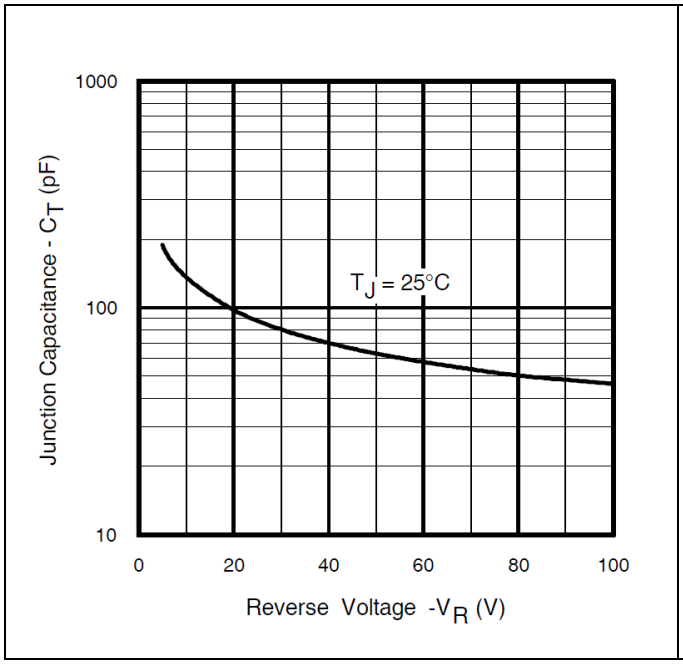


Figure 2 Typical Values of Reverse Current Vs. Reverse Voltage (Per Leg)

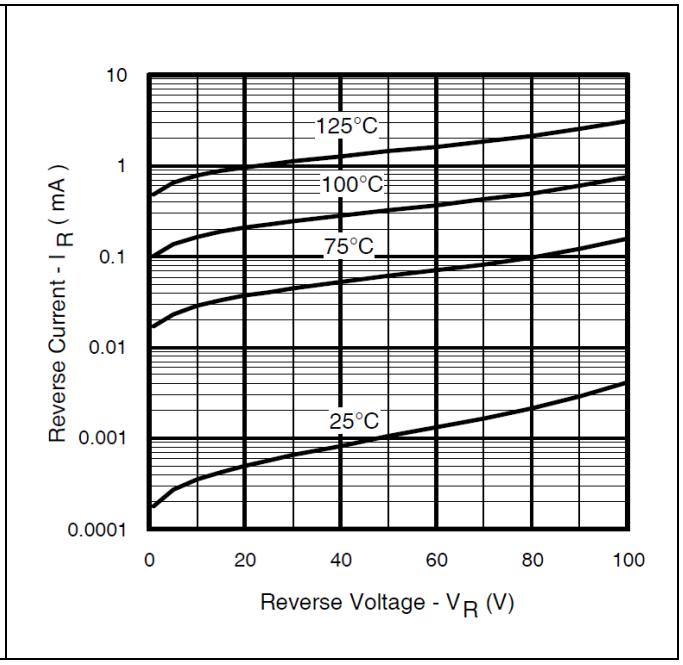


Figure 3 Typical Junction Capacitance Vs. Reverse Voltage (Per Leg)

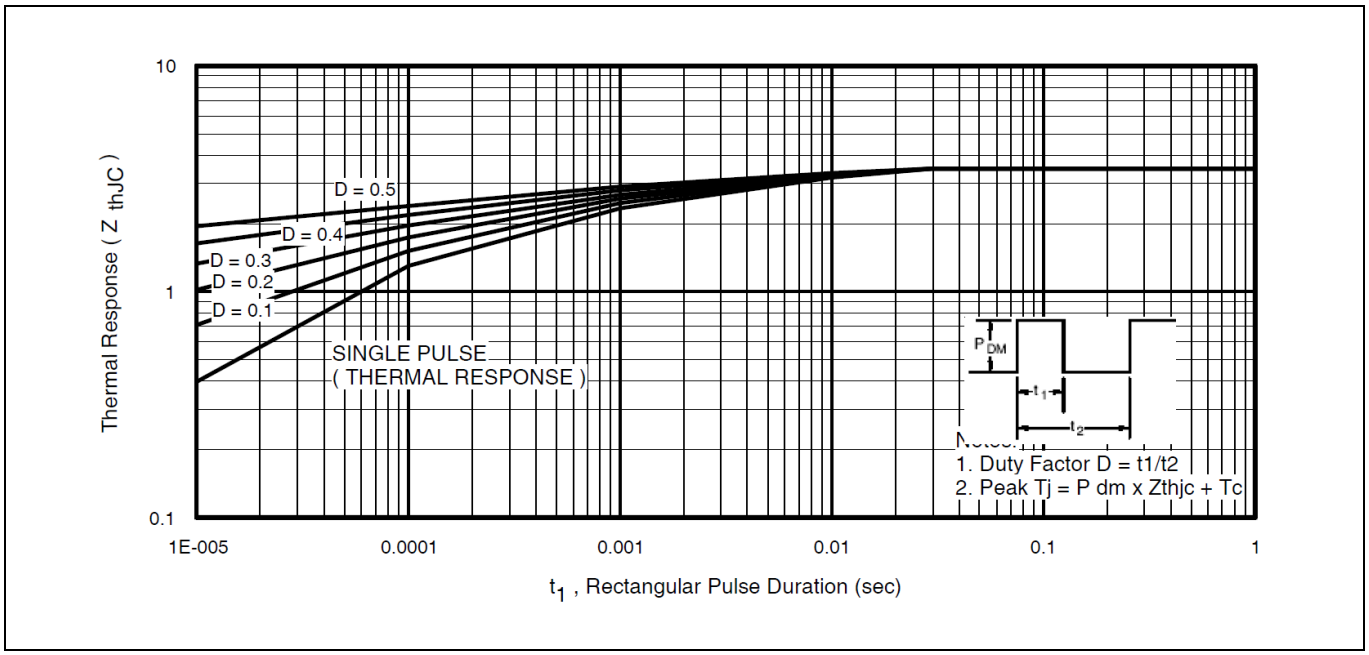


Figure 4 Maximum Thermal Impedance Z_{thJC} Characteristics (Per Leg)

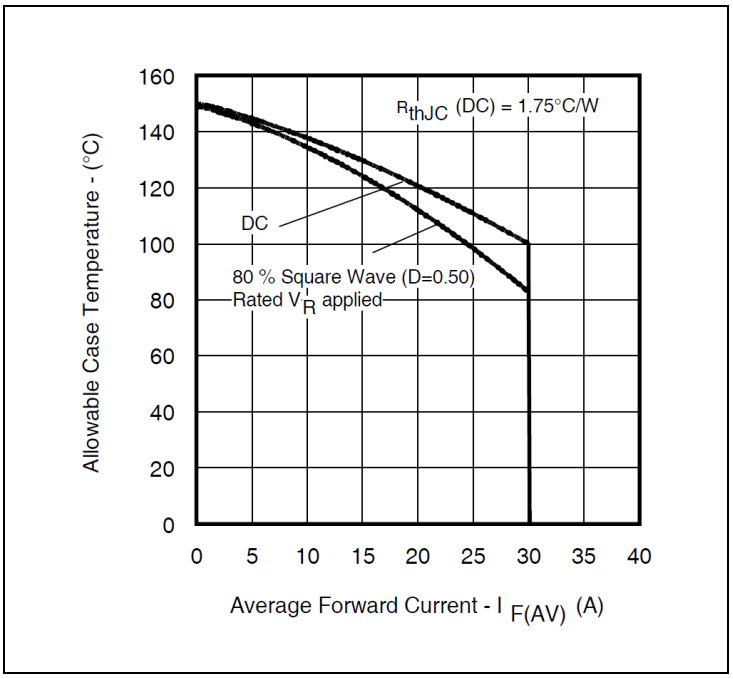
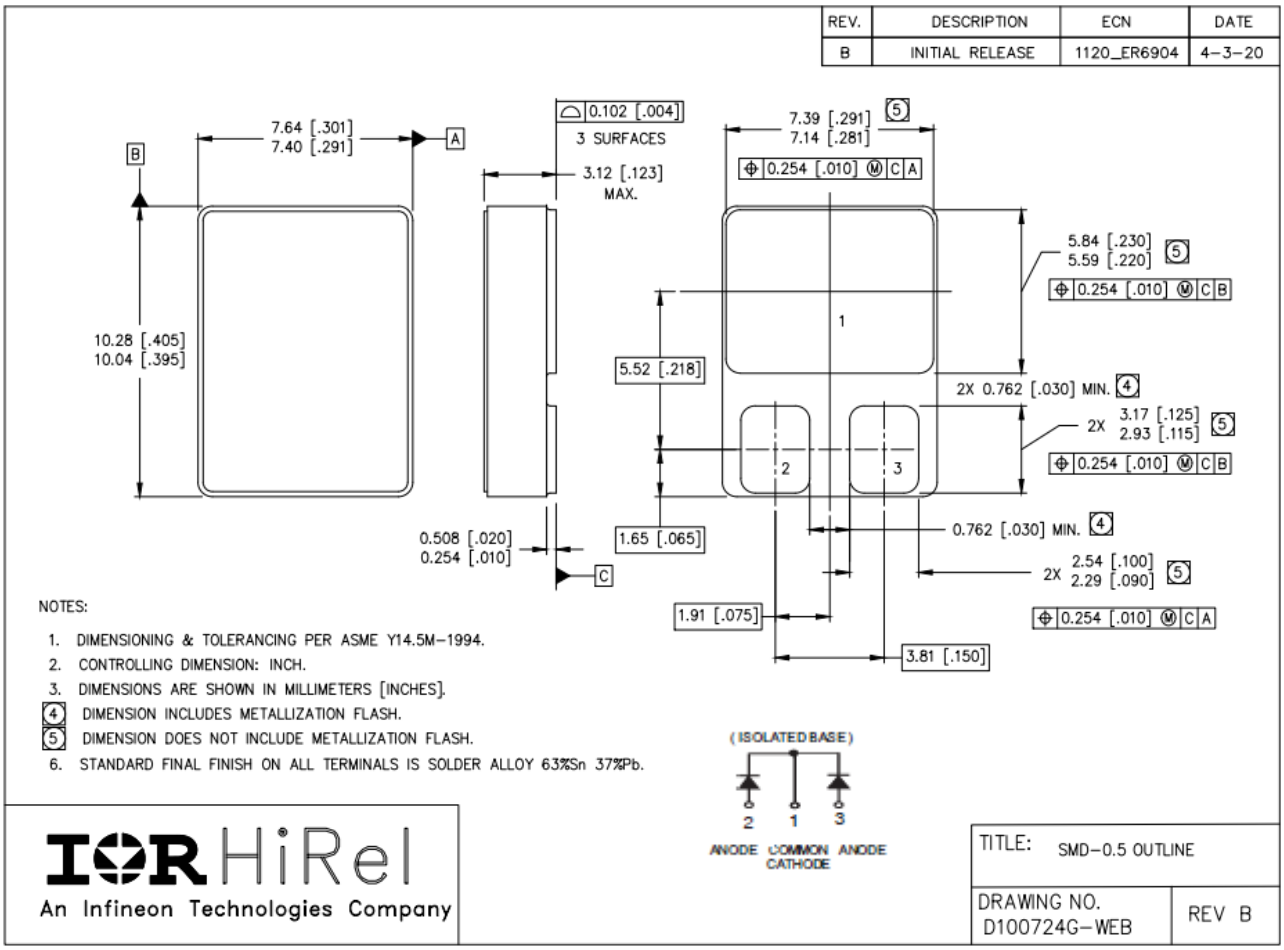


Figure 5 Maximum Allowable Case Temperature Vs. Average Forward Current (Per Package)

4 Package Outline

Note: For the most updated package outline, please see the website: SMD-0.5



Revision history

Document version	Date of release	Description of changes
	01/23/2001	Final datasheet (PD-94085)
Rev A	08/10/2001	Updated Vf curve –page3
Rev B	11/29/2007	Updated fig 5 –page4
Rev C	05/13/2008	Updated per ECN-16060
Rev D	10/19/2012	Added ESD rating –page1
Rev E	06/15/2021	Updated per ECN-1120-08640

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Do you have a question about this document?

Email: erratum@infineon.com

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