

Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	60	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _{RM}		
Average Rectified Output Current @T _C = +140°C	I _O	8	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine Wave Superimposed on Rated Load	I _{FSM}	280	A
Repetitive Peak Avalanche Power (1μs, +25°C)	P _{ARM}	6000	W
Non-Repetitive Avalanche Energy (T _J = +25°C, I _{AS} = 12A, L = 10mH)	E _{AS}	620	mJ

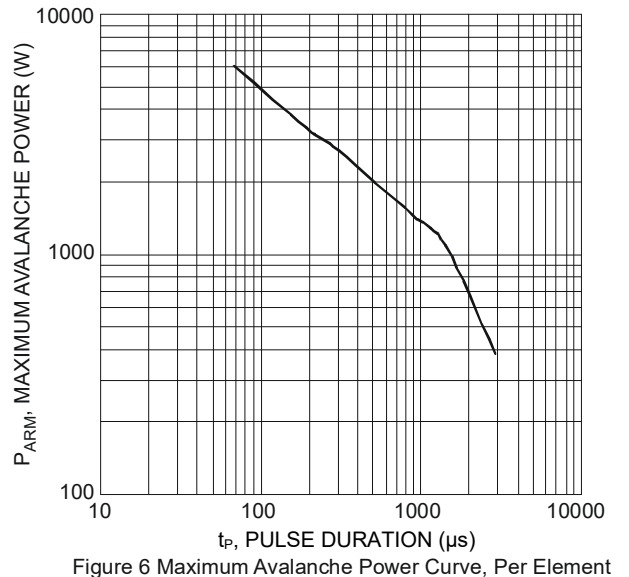
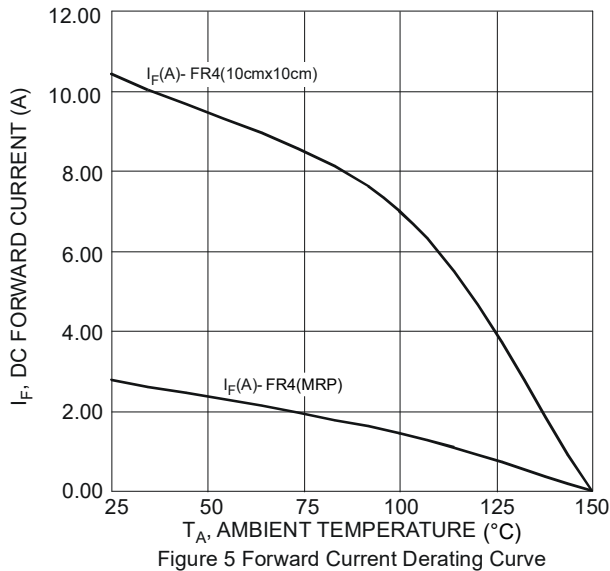
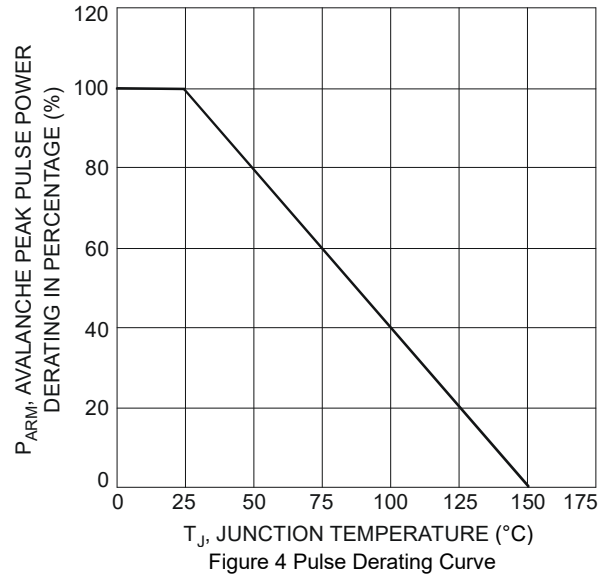
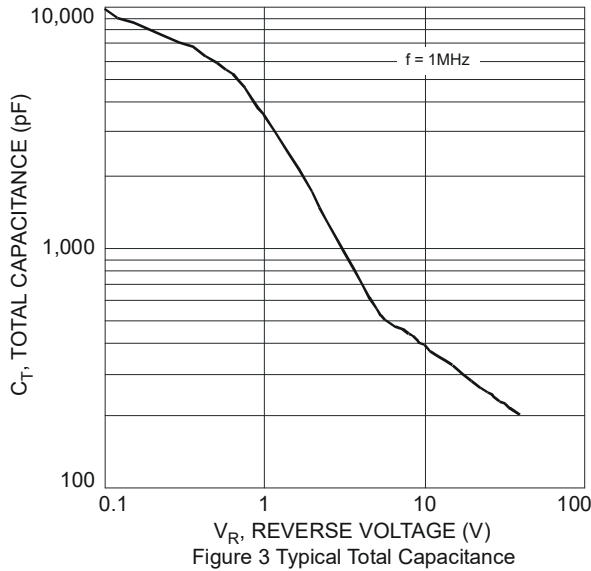
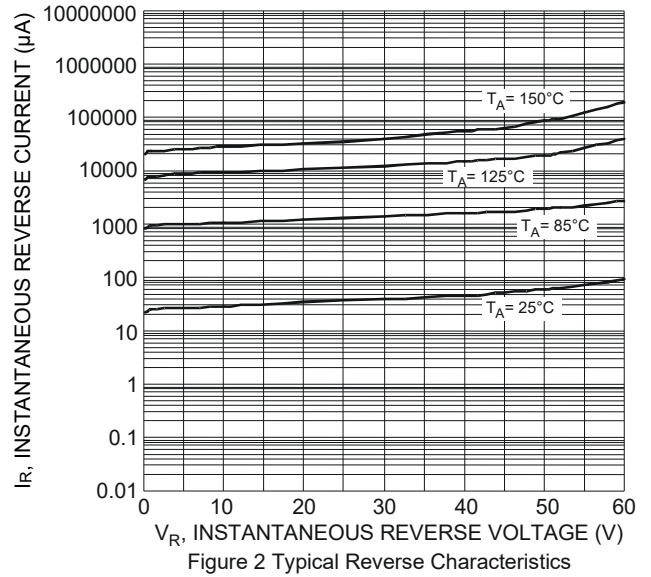
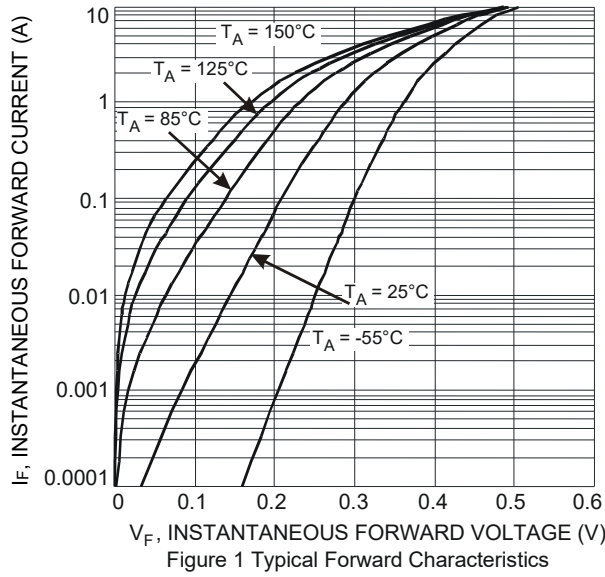
Thermal Characteristics

Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance			
Thermal Resistance Junction to Soldering (Note 6)	R _{θJS}	3	°C/W
Thermal Resistance Junction to Ambient (Note 7)	R _{θJA}	60	
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V _F	—	0.30	0.35	V	I _F = 1.0A, T _J = +25°C
		—	0.46	0.53		I _F = 8A, T _J = +25°C
		—	0.43	—		I _F = 8A, T _J = +125°C
Leakage Current (Note 8)	I _R	—	0.1	0.33	mA	V _R = 60V, T _J = +25°C
		—	40	—		V _R = 60V, T _J = +125°C
Junction Capacitance	C _J	—	590	—	pF	V _R = 4V, f = 1MHz
Reverse-Recovery Time	t _{RR}	—	28	—	ns	I _F = 0.5A, I _R = 1.0A, I _{RR} = 0.25A, T _A = +25°C

- Notes:
6. Theoretical R_{θJS} calculated from the top center of the die straight down to the PCB cathode tab solder junction.
 7. Polyimide PCB, 2 oz. copper, minimum recommended pad layout per <http://www.diodes.com/package-outlines.html>.
 8. Short duration pulse test used to minimize self-heating effect.



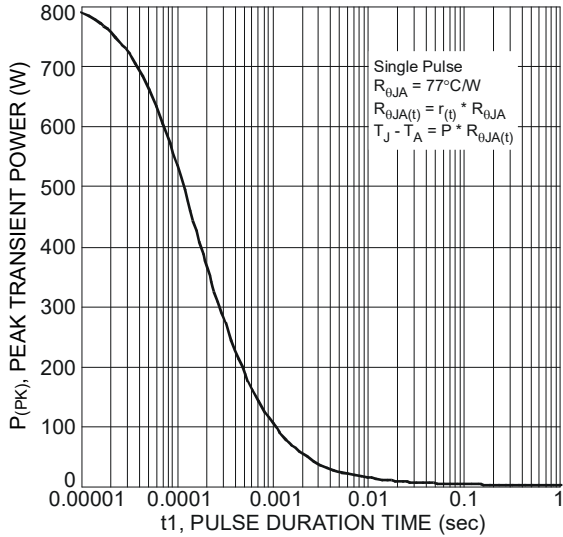


Figure 7 Single Pulse Maximum Power Dissipation

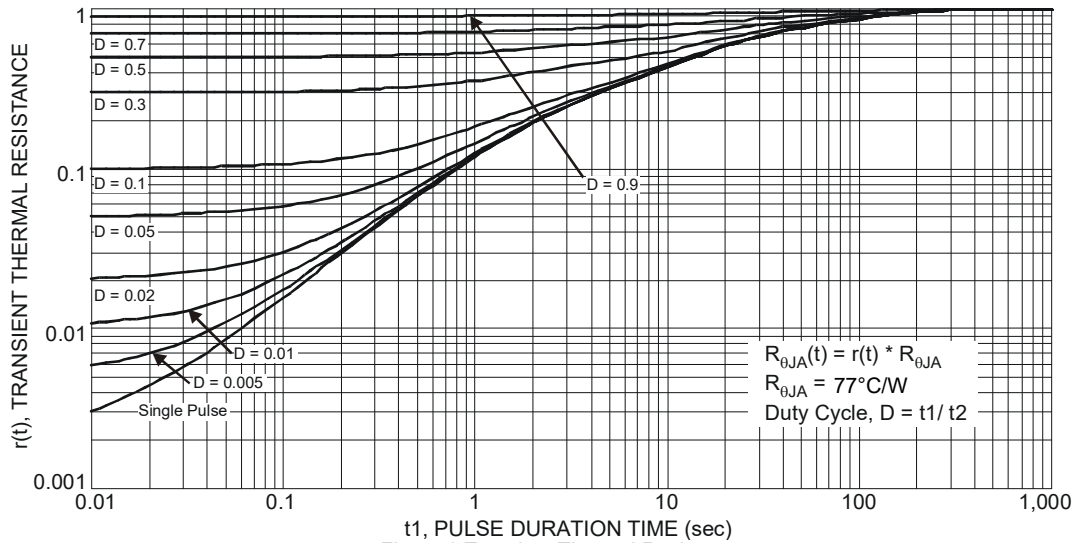
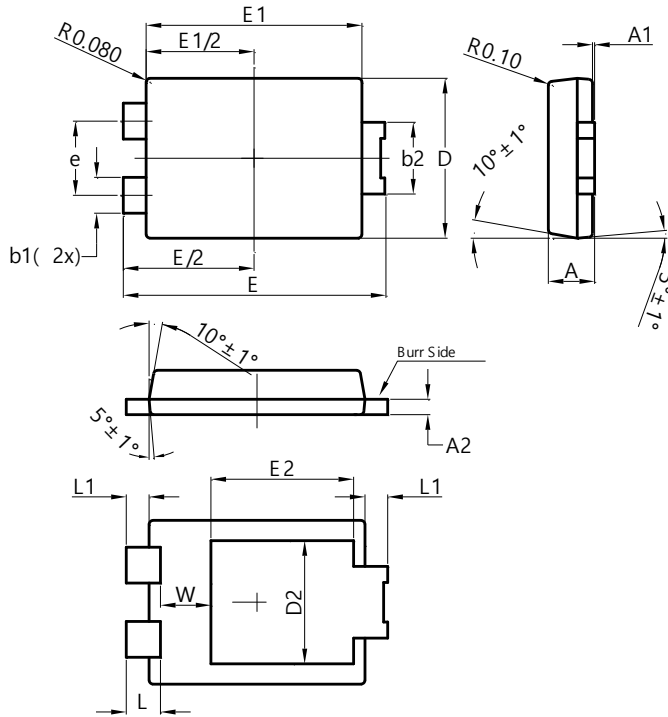


Figure 8 Transient Thermal Resistance

Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

PowerDI-5

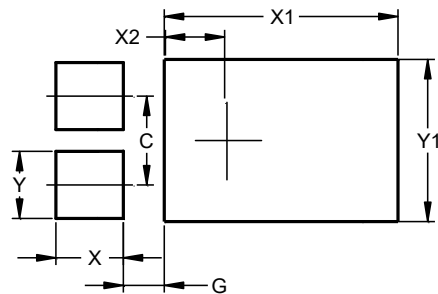


PowerDI-5			
Dim	Min	Max	Typ
A	1.05	1.15	1.10
A1	0.00	0.05	--
A2	0.33	0.43	0.381
b1	0.80	0.99	0.89
b2	1.70	1.88	1.78
D	3.90	4.05	3.966
D2	--	--	3.05
E	6.40	6.60	6.51
e	1.84 NOM		
E1	5.30	5.45	5.37
E2	--	--	3.549
L	0.75	0.95	0.85
L1	0.50	0.65	0.57
W	1.10	1.41	1.255
All Dimensions in mm			

Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

PowerDI-5



Dimensions	Value (in mm)
C	1.840
G	0.852
X	1.400
X1	4.860
X2	1.310
Y	1.390
Y1	3.360

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