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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	US1JDFQ	US1MDFQ	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	600	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	420	700	V
Average Rectified Output Current @T_T = +25°C	I_O	1.0		A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	30		A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Terminal (Note 8)	$R_{\theta JT}$	44	°C/W
Typical Thermal Resistance, Junction to Ambient (Note 8)	$R_{\theta JA}$	80	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

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

Characteristic		Symbol	US1JDFQ	US1MDFQ	Unit
Minimum Reverse Breakdown Voltage (Note 6)	@I_R = 5μA	$V_{(BR)R}$	600	1000	V
Maximum Forward Voltage Drop	@I_F = 1.0A	V_F	1.7		V
Peak Reverse Current at Rated DC Blocking Voltage (Note 6)	@T_A = +25°C @T_A = +100°C	I_R	5.0 100		μA
Maximum Reverse Recovery Time (Note 7)		t_{RR}	75		ns
Typical Total Capacitance (Note 10)		C_T	10		pF

Notes:
6. Short duration pulse test used to minimize self-heating effect.
7. Measured with I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A. See Figure 7.
8. Device mounted on FR-4 substrate, 1" * 1", 2oz, single-sided, PC boards with 0.1" * 0.15" copper pads.
9. Device mounted on FR-4 substrate, 0.4" * 0.5", 2oz, single-sided, PC boards with 0.2" * 0.25" copper pads.
10. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

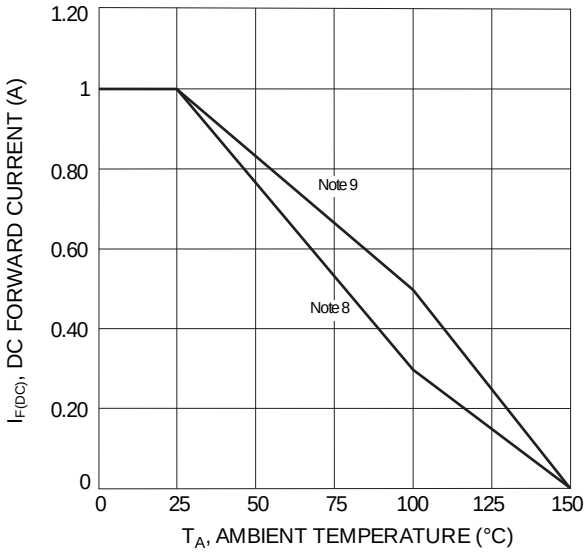

Figure 1 Forward Current Derating

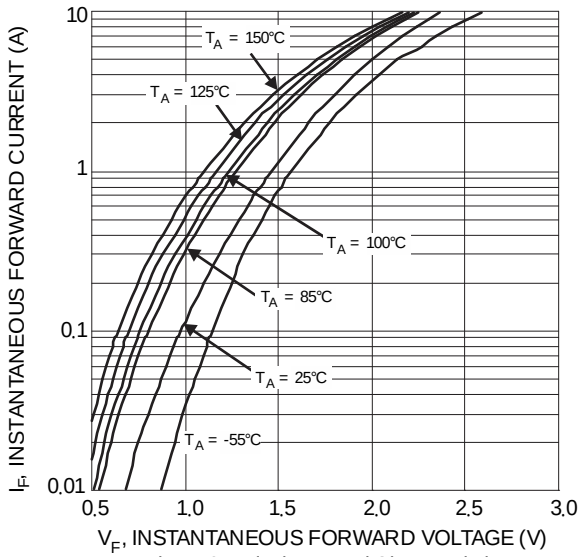

Figure 2 Typical Forward Characteristics

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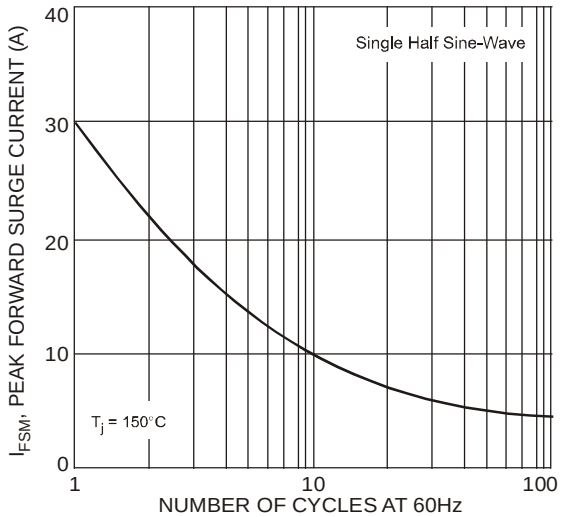

Figure 3 Forward Surge Current Derating Curve

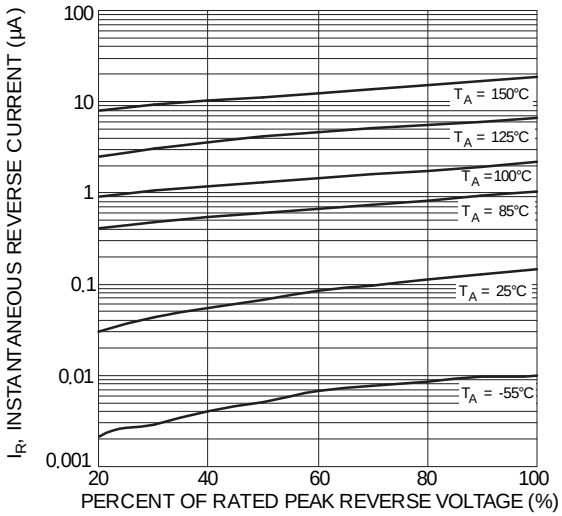

Figure 4 Typical Reverse Characteristics

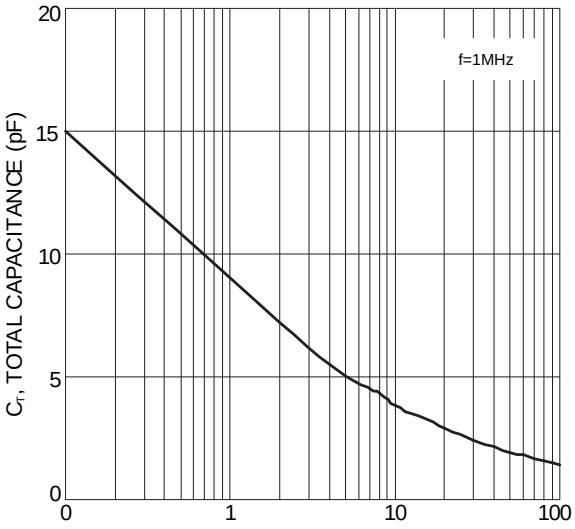

Figure 5 Total Capacitance

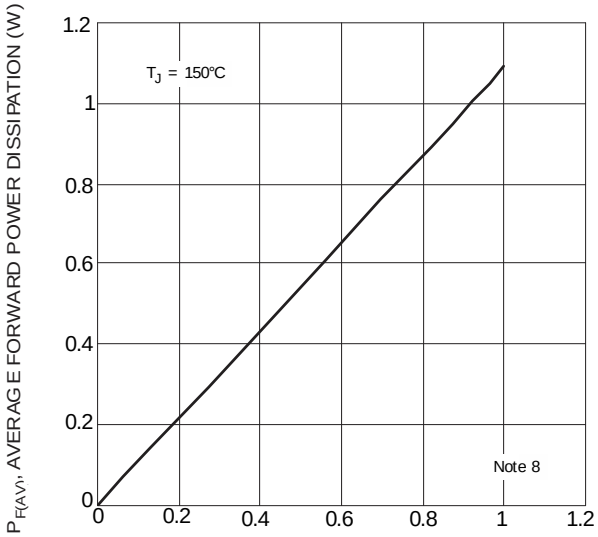

Figure 6 Forward Power Dissipation

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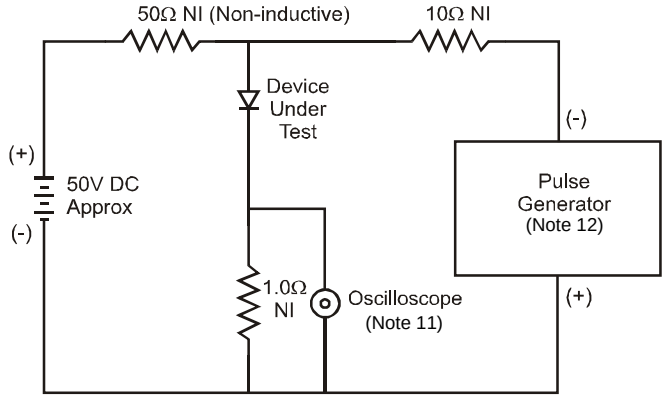
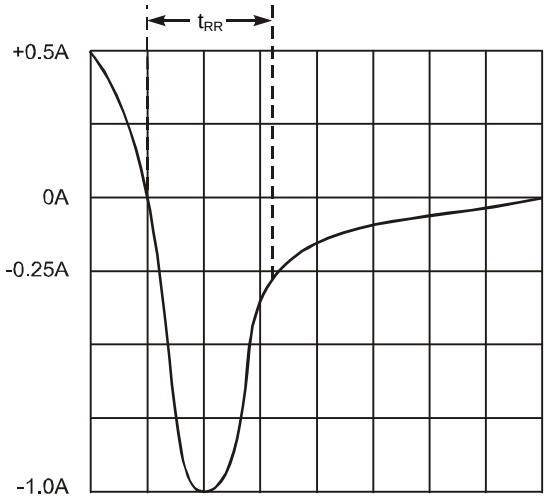


Notes:
11. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
12. Rise Time = 10ns max. Input Impedance = 50Ω.



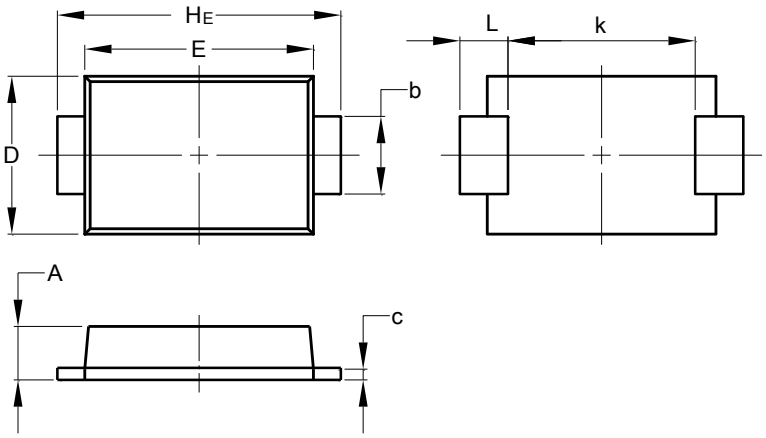
Set time base for 50/100 ns/cm

Figure 7 Reverse Recovery Time Characteristic and Test Circuit

Package Outline Dimensions

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

D-FLAT

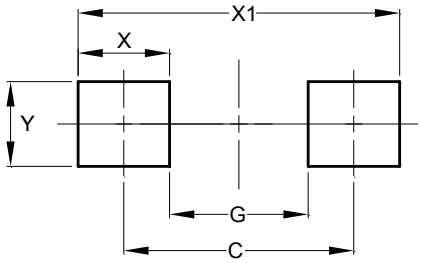


D-FLAT		
Dim	**Min**	**Max**
A	0.90	1.10
b	1.25	1.65
c	0.10	0.40
D	2.25	2.95
E	3.95	4.60
k	2.80	-
H_E	5.00	5.60
L	0.50	1.30
All Dimensions in mm		

Suggested Pad Layout

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

D-FLAT



Dimensions	Value (in mm)
C	4.65
G	2.80
X	1.85
X1	6.50
Y	1.70

NEW PRODUCT

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