DF6A6.8FUT

Quad Array for ESD Protection

This quad voltage suppressor is designed for applications requiring transient overvoltage protection capability. It is intended for use in voltage and ESD sensitive equipment such as computers, printers, business machines, communication systems, medical equipment, and other applications. Its quad junction common anode design protects four separate lines using only one package. These devices are ideal for situations where board space is at a premium.

Specification Features

- SC−88 Package Allows Four Separate Unidirectional Configurations
- Low Leakage < 1 μA @ 5 Volt
- Breakdown Voltage: 6.4 − 7.2 Volt @ 5 mA
- Low Capacitance (40 pF typical)
- ESD Protection Meeting 61000−4−2 Level 4 and 16 kV Human Body Model
- These are Pb−Free Devices

Mechanical Characteristics

- Void Free, Transfer−Molded, Thermosetting Plastic Case
- Corrosion Resistant Finish, Easily Solderable
- Package Designed for Optimal Automated Board Assembly
- Small Package Size for High Density Applications

MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Rating	Symbol	Value	Unit
Peak Power Dissipation @ 8 x 20 μs (Note 1)	P_{pk}	75	Watts
Steady State Power Dissipation (Note 2)	P_D	385	mW
Thermal Resistance − Junction−to−Ambient Derate Above 25°C	$R_{\theta JA}$	328 3.0	°C/W mW/°C
Maximum Junction Temperature	T_{Jmax}	150	°C
Operating Junction and Storage Temperature Range	T_J, T_{stg}	−55 to +150	°C
ESD Discharge MIL STD 883C − Method 3015−6 IEC61000−4−2, Air Discharge IEC61000−4−2, Contact Discharge	V_{PP}	16 16 8	kV
Lead Solder Temperature (10 seconds duration)	T_L	260	°C

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

1. Per Waveform Figure 1
2. Mounted on FR−5 Board = 1.0 X 0.75 X 0.062 in.

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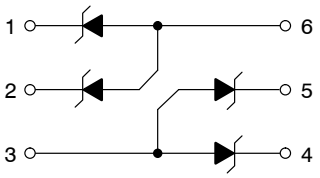
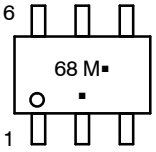


SC−88
CASE 419B−02

MARKING DIAGRAM

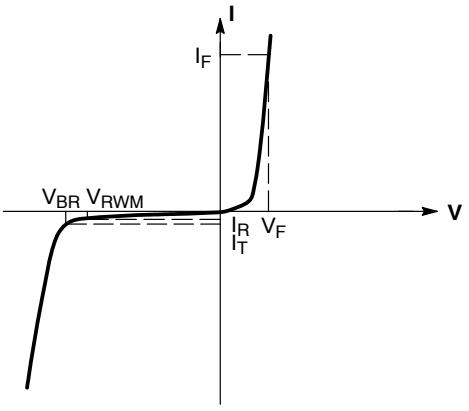


68 = Specific Device Code
M = Date Code
▪ = Pb−Free Package
(Note: Microdot may be in either location.)

ORDERING INFORMATION

Device	Package	Shipping†
DF6A6.8FUT1G	SC−88 (Pb−Free)	3000/Tape & Reel
DF6A6.8FUT2G	SC−88 (Pb−Free)	3000/Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.



V–I Curve

ELECTRICAL CHARACTERISTICS

Device	Device Marking	Breakdown Voltage V_{BR} @ 5 mA (Volts)			Leakage Current I_{RM} @ V_{RWM} = 5 V	Typical Capacitance @ 0 V Bias	Max V_F @ I_F = 10 mA	Max Z_Z @ 5 mA	Max Z_{ZK} @ 0.5 mA
		Min	Nom	Max	(μA)	(pF)	(V)	(Ω)	(Ω)
DF6A6.8FUT1G	68	6.4	6.8	7.2	1.0	40	1.25	30	300
DF6A6.8FUT2G	68	6.4	6.8	7.2	1.0	40	1.25	30	300

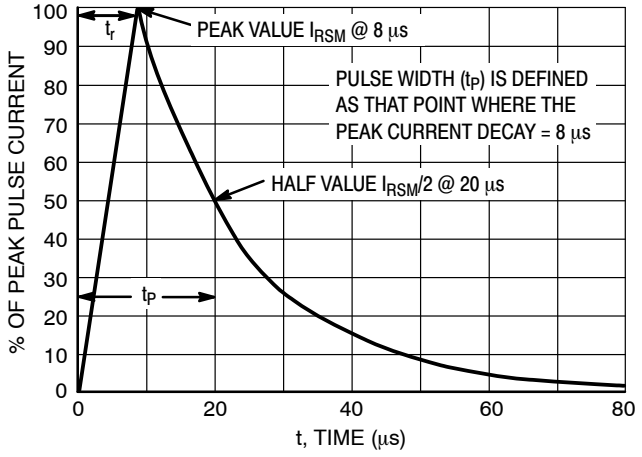


Figure 1. 8 × 20 μs Pulse Waveform

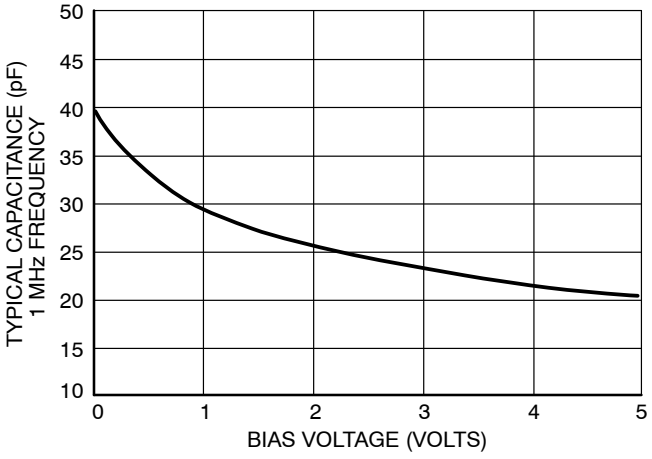


Figure 2. Capacitance

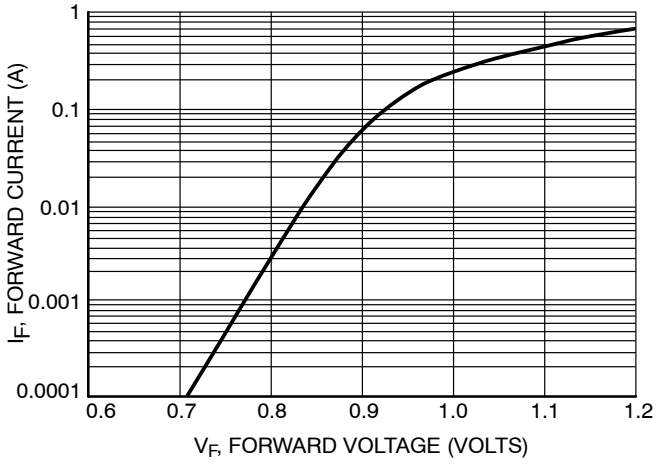


Figure 3. Forward Voltage

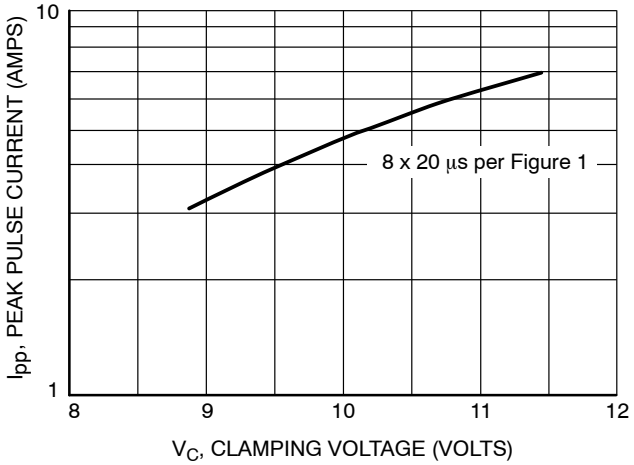
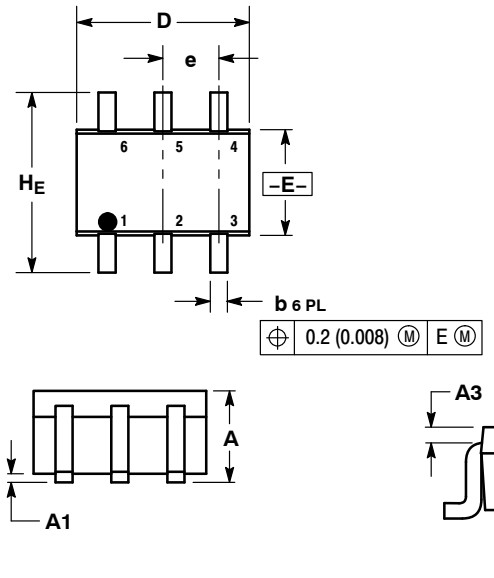


Figure 4. Clamping Voltage versus Peak Pulse Current

DF6A6.8FUT

PACKAGE DIMENSIONS

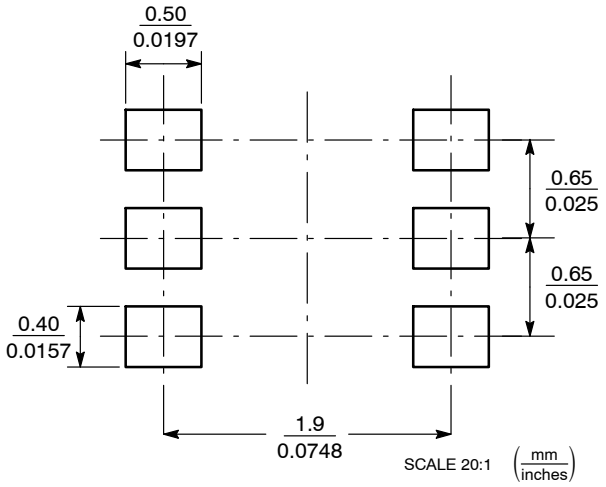
SC−88/SC70−6/SOT−363
CASE 419B−02
ISSUE W



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. 419B−01 OBSOLETE, NEW STANDARD 419B−02.

	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	0.95	1.10	0.031	0.037	0.043
A1	0.00	0.05	0.10	0.000	0.002	0.004
A3	0.20 REF			0.008 REF		
b	0.10	0.21	0.30	0.004	0.008	0.012
C	0.10	0.14	0.25	0.004	0.005	0.010
D	1.80	2.00	2.20	0.070	0.078	0.086
E	1.15	1.25	1.35	0.045	0.049	0.053
e	0.65 BSC			0.026 BSC		
L	0.10	0.20	0.30	0.004	0.008	0.012
H_E	2.00	2.10	2.20	0.078	0.082	0.086

SOLDERING FOOTPRINT*



*For additional information on our Pb−Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
Literature Distribution Center for ON Semiconductor
P.O. Box 5163, Denver, Colorado 80217 USA
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For additional information, please contact your local Sales Representative