

DF6A6.8FUT1

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 μ A @ 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

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 ($T_A = 25^\circ\text{C}$ unless otherwise noted)

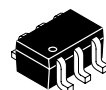
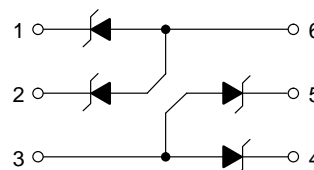
Rating	Symbol	Value	Unit
Peak Power Dissipation @ 8 x 20 μ s (Note 1)	P_{pk}	75	Watts
Steady State Power Dissipation (Note 2)	P_D	385	mW
Thermal Resistance – Junction to Ambient Derate Above 25°C	$R_{\theta JA}$	328 3.0	°C/W mW/°C
Maximum Junction Temperature	T_{Jmax}	150	°C
Operating Junction and Storage 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

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



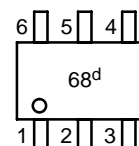
ON Semiconductor™

<http://onsemi.com>



SC-88
CASE 419B
PLASTIC

MARKING DIAGRAM

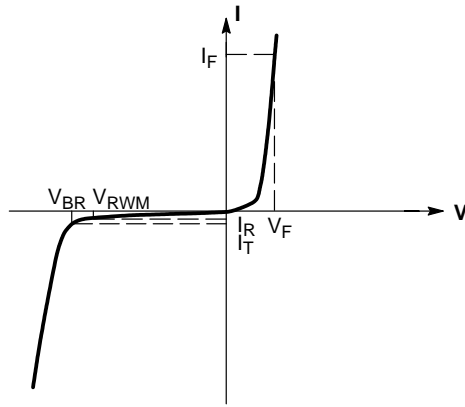


68 = Device Marking
d = One Digit Date Code
O = Pin 1 Indicator

ORDERING INFORMATION

Device	Package	Shipping
DF6A6.8FUT1	SC-88	3000/Tape & Reel

DF6A6.8FUT1



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	(μ A)	(pF)	(V)	(Ω)	(Ω)
DF6A6.8FUT1	68	6.4	6.8	7.2	1.0	40	1.25	30	300

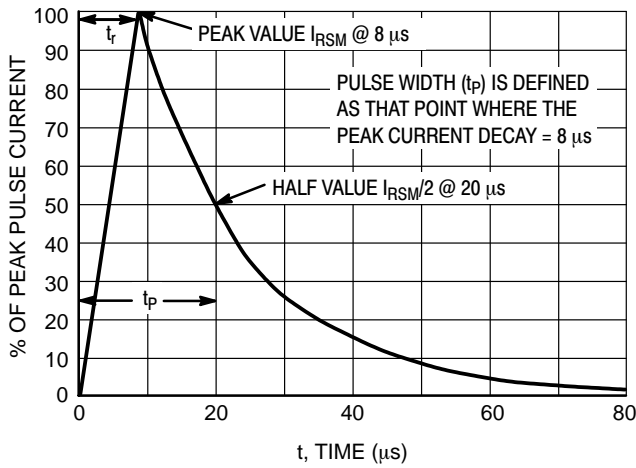


Figure 1. $8 \times 20 \mu s$ Pulse Waveform

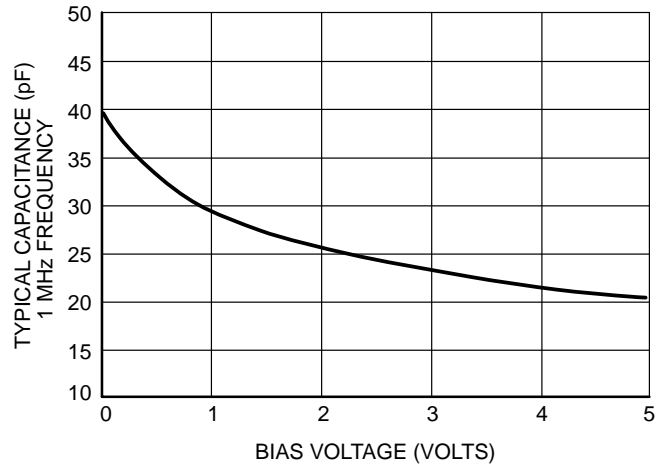


Figure 2. Capacitance

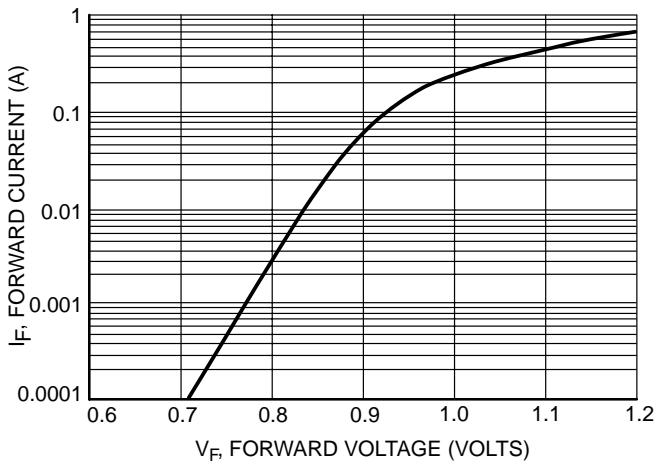


Figure 3. Forward Voltage

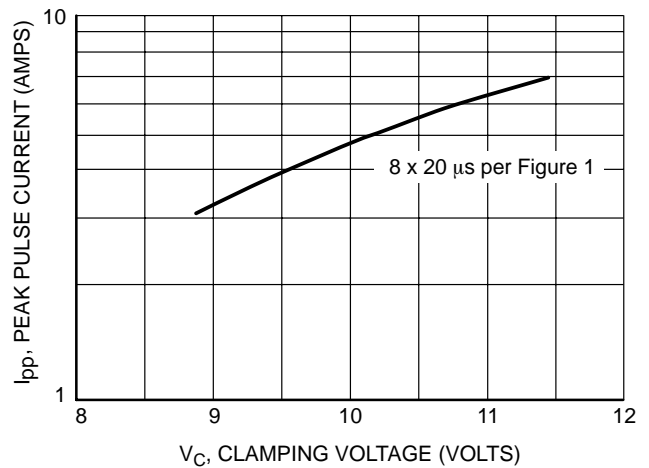
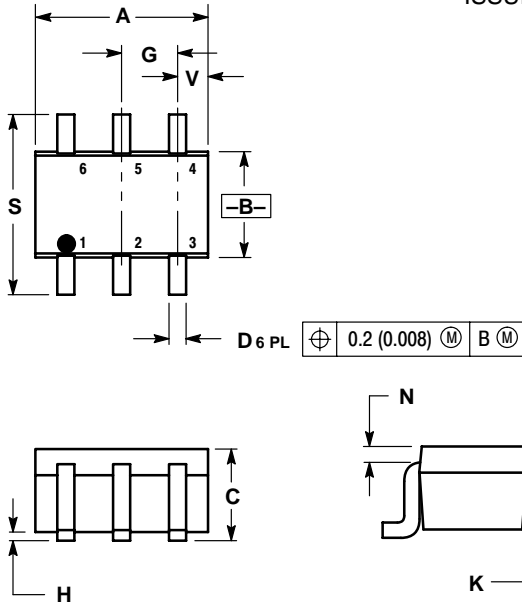


Figure 4. Clamping Voltage versus Peak Pulse Current

DF6A6.8FUT1

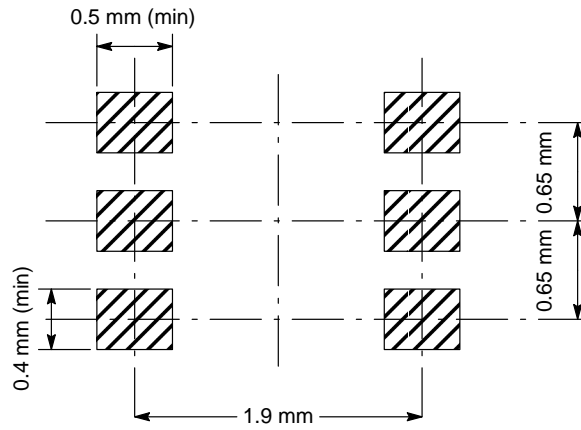
PACKAGE DIMENSIONS

SC-88 (SOT-363)
CASE 419B-01
ISSUE G



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.071	0.087	1.80	2.20
B	0.045	0.053	1.15	1.35
C	0.031	0.043	0.80	1.10
D	0.004	0.012	0.10	0.30
G	0.026 BSC		0.65 BSC	
H	---	0.004	---	0.10
J	0.004	0.010	0.10	0.25
K	0.004	0.012	0.10	0.30
N	0.008 REF		0.20 REF	
S	0.079	0.087	2.00	2.20
V	0.012	0.016	0.30	0.40



ON Semiconductor and  are trademarks of Semiconductor Components Industries, LLC (SCILLC). SCILLC reserves the right to make changes without further notice to any products herein. SCILLC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does SCILLC assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. "Typical" parameters which may be provided in SCILLC data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. SCILLC does not convey any license under its patent rights nor the rights of others. SCILLC products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the SCILLC product could create a situation where personal injury or death may occur. Should Buyer purchase or use SCILLC products for any such unintended or unauthorized application, Buyer shall indemnify and hold SCILLC and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that SCILLC was negligent regarding the design or manufacture of the part. SCILLC is an Equal Opportunity/Affirmative Action Employer.

PUBLICATION ORDERING INFORMATION

NORTH AMERICA Literature Fulfillment:

Literature Distribution Center for ON Semiconductor
P.O. Box 5163, Denver, Colorado 80217 USA
Phone: 303-675-2175 or 800-344-3860 Toll Free USA/Canada
Fax: 303-675-2176 or 800-344-3867 Toll Free USA/Canada
Email: ONlit@hibbertco.com
Fax Response Line: 303-675-2167 or 800-344-3810 Toll Free USA/Canada

N. American Technical Support: 800-282-9855 Toll Free USA/Canada

EUROPE: LDC for ON Semiconductor – European Support

German Phone: (+1) 303-308-7140 (Mon-Fri 2:30pm to 7:00pm CET)
Email: ONlit-german@hibbertco.com
French Phone: (+1) 303-308-7141 (Mon-Fri 2:00pm to 7:00pm CET)
Email: ONlit-french@hibbertco.com
English Phone: (+1) 303-308-7142 (Mon-Fri 12:00pm to 5:00pm GMT)
Email: ONlit@hibbertco.com

EUROPEAN TOLL-FREE ACCESS*: 00-800-4422-3781

*Available from Germany, France, Italy, UK, Ireland

CENTRAL/SOUTH AMERICA:

Spanish Phone: 303-308-7143 (Mon-Fri 8:00am to 5:00pm MST)
Email: ONlit-spanish@hibbertco.com
Toll-Free from Mexico: Dial 01-800-288-2872 for Access –
then Dial 866-297-9322

ASIA/PACIFIC: LDC for ON Semiconductor – Asia Support

Phone: 1-303-675-2121 (Tue-Fri 9:00am to 1:00pm, Hong Kong Time)
Toll Free from Hong Kong & Singapore:
001-800-4422-3781

Email: ONlit-asia@hibbertco.com

JAPAN: ON Semiconductor, Japan Customer Focus Center

4-32-1 Nishi-Gotanda, Shinagawa-ku, Tokyo, Japan 141-0031
Phone: 81-3-5740-2700
Email: r14525@onsemi.com

ON Semiconductor Website: <http://onsemi.com>

For additional information, please contact your local Sales Representative.