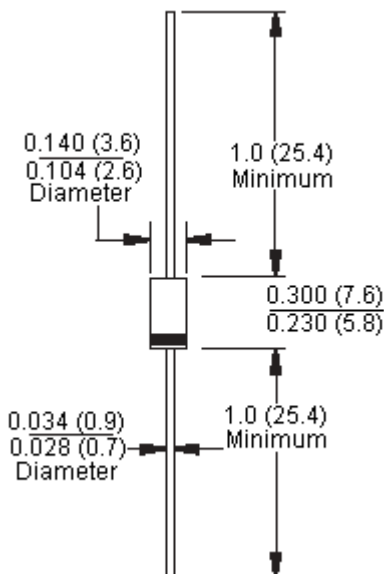




Features:

- Plastic package.
- 500W surge capability at 10 x 1000 μ s waveform, duty cycle: 0.01%.
- Excellent clamping capability.
- Low zener impedance.
- Fast response time: typically less than 1.0ps from 0 volts to VBR for unidirectional and 5.0 ns for bidirectional.
- Typical I_R less than 1 μ A above 10V.
- High temperature soldering guaranteed: 260°C/10 seconds/0.375 Inch (9.5mm) lead length/5lbs. (2.3kg) tension.

DO-15



Dimensions : Inches (Millimetres)

Mechanical Data

Case : Molded plastic.
Lead : Pure tin plated lead free, solderable per MIL-STD-202, Method 208.
Polarity : Color band denotes cathode except bipolar.
Weight : 0.34 gram.

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Type Number	Symbol	Value	Units
Peak Power Dissipation at $T_A = 25^\circ\text{C}$, $T_p = 1\text{ms}$ (Note 1)	P_{PK}	Minimum 500	Watts
Steady State Power Dissipation at $T_L = 75^\circ\text{C}$ Lead Lengths 0.375 Inch 9.5mm (Note 2)	P_D	3.0	
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) (Note 3)	I_{FSM}	70	Amps
Maximum Instantaneous Forward Voltage at 35.0A for Unidirectional Only	V_F	3.5	Volts
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to + 175	$^\circ\text{C}$

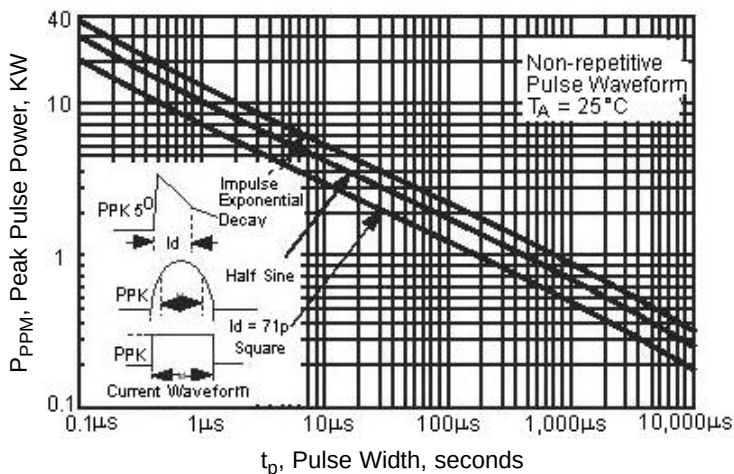
Notes: 1. Non-repetitive current pulse and derated above $T_A = 25^\circ\text{C}$.
 2. Mounted on copper pad area of 1.6 x 1.6 Inch (40 x 40 mm).
 3. 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minutes maximum.

Devices for bipolar applications

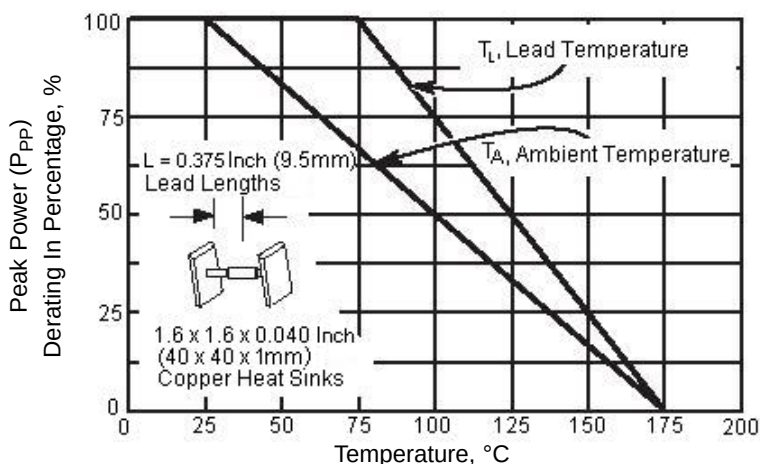
1. For bidirectional use C or CA suffix for types SA5.0 through types SA170.
2. Electrical characteristics apply in both directions.

Ratings and Characteristic Curves

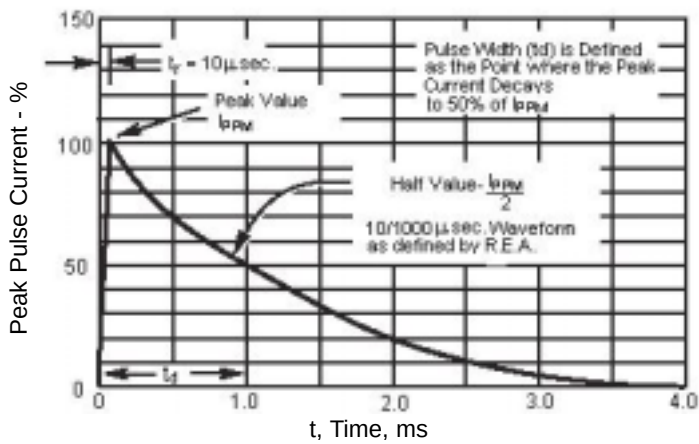
Peak Pulse Power Rating Curve



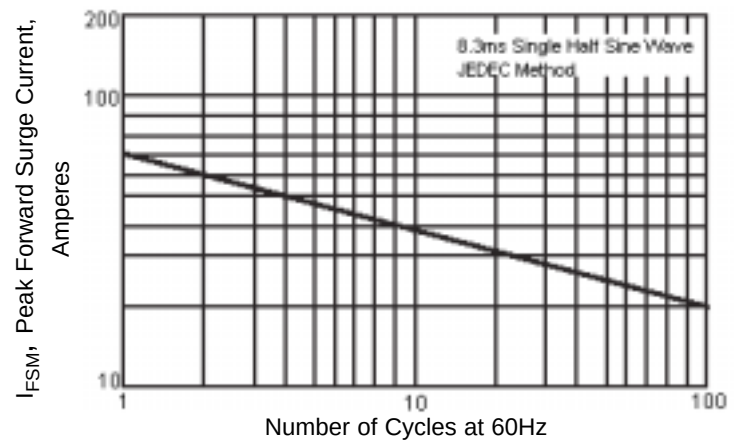
Power Derating Curve



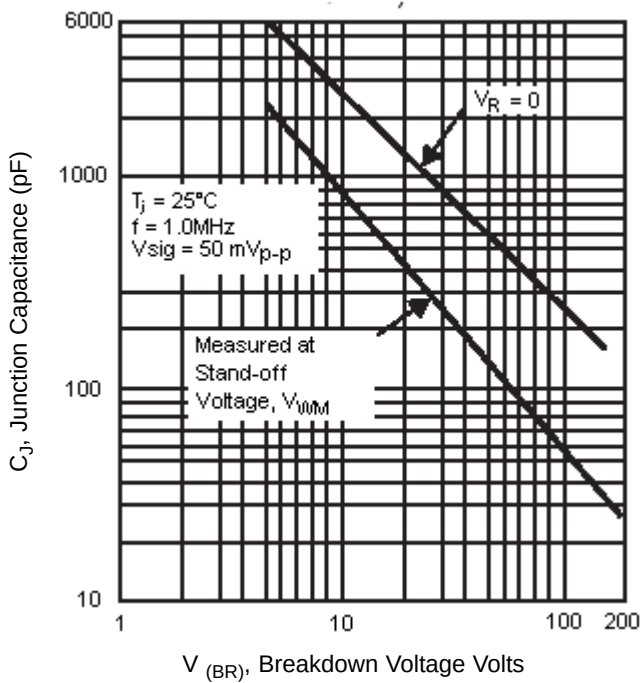
Clamping Power Pulse Waveform



Maximum Non-Repetitive Forward Surge Current Unidirectional Only



Typical Junction Capacitance (Unidirectional)



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

Device		Breakdown Voltage		Test Current at I _T (mA)	Stand-Off Voltage V _{WM} (Volts)	Maximum Reverse Leakage at V _{WM} I _D (μA)	Maximum Peak Pulse Current I _{PPM} (Note 2) (Amps)	Maximum Clamping Voltage at I _{PPM} V _C (Volts)	Maximum Temperature Coefficient of V _{BR} (mV/°C)
		V _{BR} (Volts) (Note 1)							
		Minimum	Maximum						
Unidirectional	Bidirectional								
SA100A	SA100CA	111.0	123.0	1.0	100.0	1.0	3.2	162.0	123.0
SA10A	SA10CA	11.1	12.3		10.0		30.0	17.0	10.0
SA120A	SA120CA	133.0	147.0		120.0		2.7	193.0	146.0
SA13A	SA13CA	14.4	15.9		13.0		24.0	21.5	13.0
SA150A	SA150CA	167.0	185.0		150.0		2.1	243.0	184.0
SA16A	SA16CA	17.8	19.7		16.0		20.0	26.0	17.0
SA18A	SA18CA	20.0	22.1		18.0		17.9	29.2	20.0
SA20A	SA20CA	22.2	24.5		20.0		16.0	32.4	23.0
SA22A	SA22CA	24.4	26.9		22.0		14.7	35.5	25.0
SA28A	SA28CA	31.1	34.4		28.0		11.5	45.4	31.0
SA33A	SA33CA	36.7	40.6		33.0		9.8	53.3	39.0
SA36A	SA36CA	40.0	44.2		36.0		9.0	58.1	41.0
SA48A	SA48CA	53.3	58.9		48.0		6.7	77.4	56.0
SA51A	SA51CA	56.7	62.7		51.0		6.3	82.4	61.0
SA6.5A	SA6.5CA	7.22	7.98		6.5	400.0	46.0	11.2	5.0
SA7.0A	SA7.0CA	7.78	8.60		7.0	150.0	43.0	12.0	6.0
SA7.5A	SA7.5CA	8.33	9.21		7.5	50.0	40.0	12.9	7.0
SA75A	SA75CA	88.3	92.1		75.0	1.0	4.3	121.0	91
SA8.0A	SA8.0CA	8.89	9.83		8.0	25.0	38.0	13.6	7.0
SA9.0A	SA9.0CA	10.0	11.1		9.0	5.0	34.0	15.4	9.0

Notes:

1. V_{BR} measured after I_T applied for 300 μs , I_T = square wave pulse or equivalent.
2. Surge current waveform per Figure 3 and derate per Figure 2.
3. For bipolar types with V_{WM} of 10 Volts and under, the I_D limit is doubled.
4. All terms and symbols are consistent ANSI/IEEE C62.35.

Notes:

International Sales Offices:

	AUSTRALIA - Farnell Tel No: ++61 1300 361 005 Fax No: ++61 1300 361 225		FINLAND - Farnell Tel No: ++ 358 9 560 7780 Fax No: ++ 358 9 345 5411		ITALY - Farnell Tel No: ++ 39 02 93 995 200 Fax No: ++ 39 02 93 995 300		SPAIN - Farnell Tel No: 901 20 20 80 Fax No: 901 20 20 90
	AUSTRIA - Farnell Tel No: ++ 43 662 2180 680 Fax No: ++ 43 662 2180 670		FRANCE - Farnell Tel No: ++ 33 474 68 99 99 Fax No: ++ 33 474 68 99 90		MALAYSIA - Farnell-Newark Tel No: ++ 60 3 7873 8000 Fax No: ++ 60 3 7873 7000		SWEDEN - Farnell Tel No: ++ 46 8 730 50 00 Fax No: ++ 46 8 83 52 62
	BELGIUM - Farnell Tel No: ++ 32 3 475 2810 Fax No: ++ 32 3 227 3648		GERMANY - Farnell Tel No: ++ 49 89 61 39 39 39 Fax No: ++ 49 89 613 59 01		NETHERLANDS - Farnell Tel No: ++ 31 30 241 7373 Fax No: ++ 31 30 241 7333		SWITZERLAND - Farnell Tel No: ++ 44 204 64 64 Fax No: ++ 44 204 64 54
	BRAZIL - Farnell-Newark Tel No: ++ 55 11 4066 9400 Fax No: ++ 55 11 4066 9410		HONG KONG - Farnell-Newark Tel No: ++ 852 2268 9888 Fax No: ++ 852 2268 9899		NEW ZEALAND - Farnell Tel No: 0800 90 80 80 Fax No: 0800 90 80 81		UK - Farnell Tel No: ++ 44 8701 200 200 Fax No: ++ 44 8701 200 201
	CHINA - Farnell-Newark Tel No: ++86 10 6238 5152 Fax No: ++86 10 6238 5022		HUNGARY - Farnell Tel No: ++ 44 870 1200 208 Fax No: ++ 44 870 1200 209		NORWAY - Farnell Tel No: 800 146 70 Fax No: 800 146 76		UK - CPC ++ 44 8701 202 530 ++ 44 8701 202 531
	CZECH REPUBLIC - Farnell Tel No: ++ 44 870 1200 208 Fax No: ++ 44 870 1200 209		INDIA - Farnell Tel No: ++ 44 870 1200 208 Fax No: ++ 44 870 1200 209		PORTUGAL - Farnell Tel No: ++ 34 93 475 8804 Fax No: ++ 34 93 474 5288		USA - Newark Tel No: 800 463 9275
	DENMARK - Farnell Tel No: ++ 45 44 53 66 44 Fax No: ++ 45 44 53 66 06		IRELAND - Farnell Tel No: ++ 353 1 830 9277 Fax No: ++ 353 1 830 9016		RUSSIA - Farnell Tel No: ++ 44 870 1200 208 Fax No: ++ 44 870 1200 209	 EXPORT - Farnell Tel No: ++ 44 8701 200 208 Fax No: ++ 44 8701 200 209 For enquiries from all other markets	
	ESTONIA - Farnell Tel No: ++ 358 9 560 7780 Fax No: ++ 358 9 345 5411		ISRAEL - Farnell Tel No: ++ 180 937 0015 Fax No: ++ 180 937 0014		SINGAPORE - Farnell-Newark Tel No: ++ 65 6788 0200 Fax No: ++ 65 6788 0300		

<http://www.farnell.com>
<http://www.newark.com>
<http://www.cpc.co.uk>

Disclaimer This data sheet and its contents (the "Information") belong to the Premier Farnell Group (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. SPC Multicomp is the registered trademark of the Group. © Premier Farnell plc 2008.