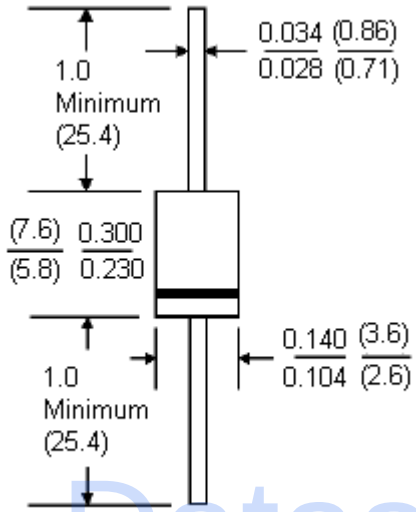
SA Series

Protection Diodes

DO-15



Dimensions : Inches (Millimetres)

Features:

- Plastic package.
- Glass passivated chip junction.
- 500W peak pulse power capability on 10/1000µS waveform.
- Excellent clamping capability.
- Repetition rate (duty cycle) : 0.01%.
- Low incremental surge resistance.
- Fast response time : Typically less than 1.0ps from 0 volts to BV for unidirectional and 5.0ns for bidirectional types.
- Typical I_D less than 1µA above 10V.
- High temperature soldering guaranteed : 300°C/10seconds/0.375", (9.5mm) lead length/5lbs., (2.3kg) tension.

Mechanical Data:

Case : JEDEC DO-15 moulded plastic over passivated junction.

Terminals : Plated axial leads, solderable per MIL-STD-750, Method 2026.

Polarity : Colour band denotes positive end (cathode) except bidirectionals.

Mounting Position : Any

Devices For Bipolar Applications:

For bidirectionals use C or CA suffix for types. Electrical characteristics apply in both directions.

Maximum Ratings and Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Unit
Peak Pulse Power Dissipation on 10/1000µS Waveform (Note 1, Figure 1)	P_{PPM}	Minimum 500	Watts
Steady State Power Dissipation at T_L = 75°C Lead Lengths 0.375", (9.5mm) (Note 2)	$P_{M\ (AV)}$	1.0	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load, Unidirectional only (JEDEC Method) (Note 3)	I_{FSM}	70	Amps
Operating Junction and Storage Temperature Range	T_j, T_{STG}	-65 to +175	°C

Notes:

1. Non-Repetitive Current Pulse, per Figure 3 and Derated above T_A = 25°C per Figure 2.
2. Mounted on Copper Leaf Area of 1.57in^2 (40mm^2) per Figure 5.
3. 8.3ms Single Half Sine-Wave or Equivalent Square Wave, Duty Cycle = 4 Pulses per Minute Maximum.

Ratings and Characteristic Curves

Figure 1 Peak Pulse Power Rating Curve

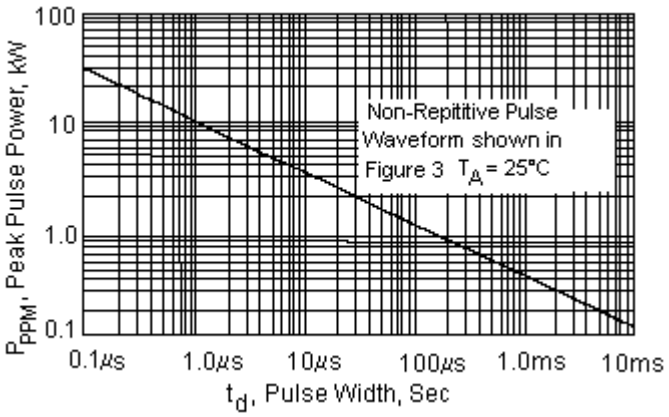


Figure 2 Pulse Derating Curve

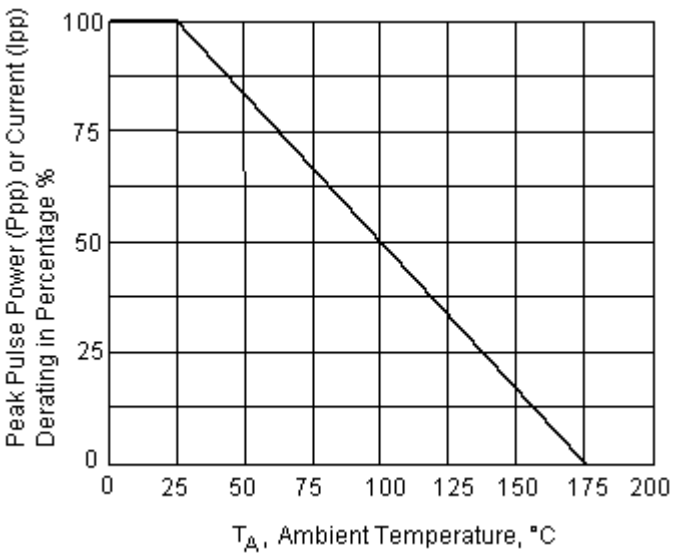


Figure 3 Pulse Waveform

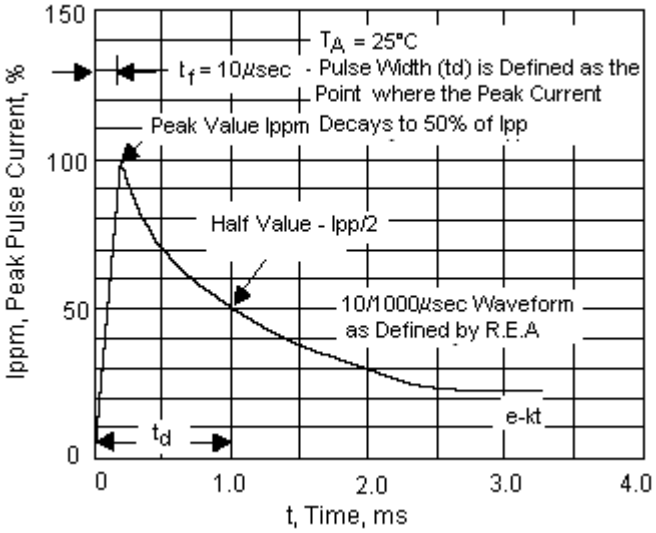


Figure 4 Typical junction Capacitance Uni-Directional

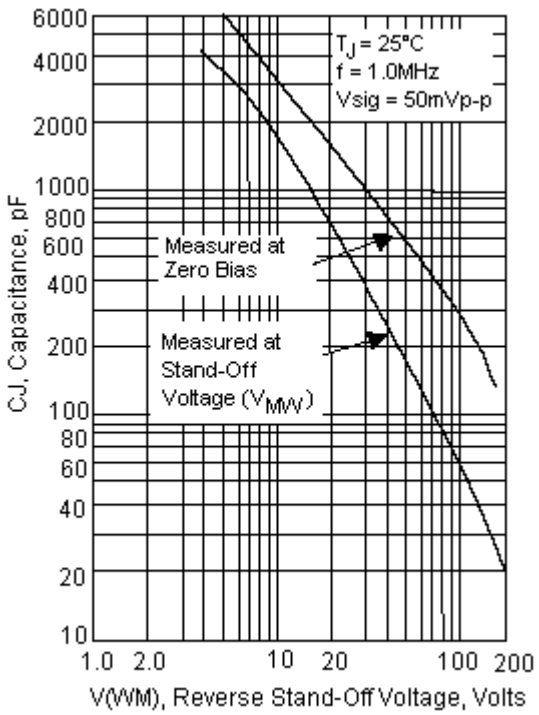


Figure 5 Steady State Derating Curve

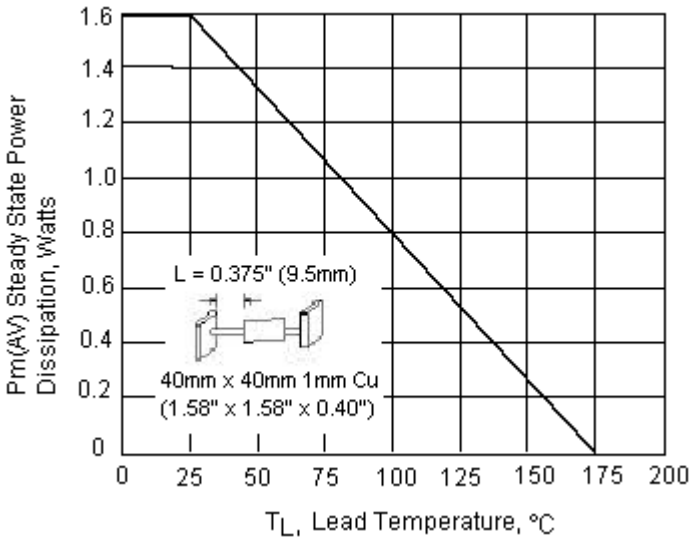
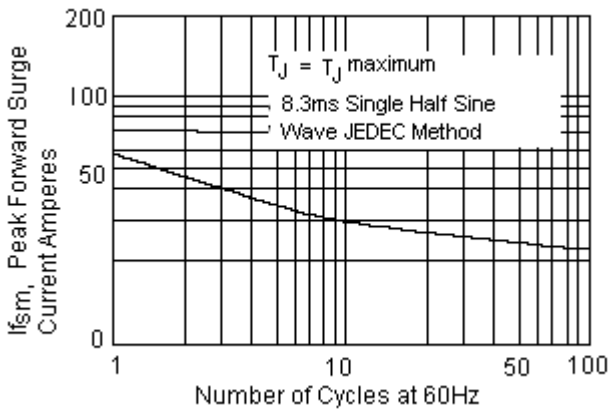


Figure 6 Maximum Non-Repetitive Peak Forward Surge Current Uni-Directional Only



Specification Table

Type	Reverse Stand-Off Voltage V_{RWM} (V)	Breakdown Voltage V_{BR} (V) Minimum at IT	Breakdown Voltage V_{BR} (V) Maximum at IT	Test Current IT (mA)	Maximum Clamping Voltage at I_{PP} VC (V)	Peak Pulse Current I_{PP} (A)	Reverse Leakage at V_{RWM} IR (µA)	Part Number
Uni-Directional	5.00	6.4	7.25	10	9.2	54.3	600	SA5.0A
	12.00	13.3	15.3	1	19.9	25.1	3	SA12A
	16.00	16.7	19.2	1	24.4	20.6	3	SA15A
	24.00	26.7	30.7	1	38.9	12.8	3	SA24A
	30.00	33.3	38.3	1	48.4	10.3	3	SA30A
Bi-Directional	5.00	6.4	7.25	10	9.2	54.3	1200	SA5.0CA
	12.00	13.3	15.3	1	19.9	25.1	3	SA12CA
	16.00	16.7	19.2	1	24.4	20.6	3	SA15CA
	24.00	26.7	30.7	1	38.9	12.8	3	SA24CA
	30.00	33.3	38.3	1	48.4	10.3	3	SA30CA

Notes:

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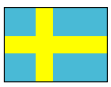

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