SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

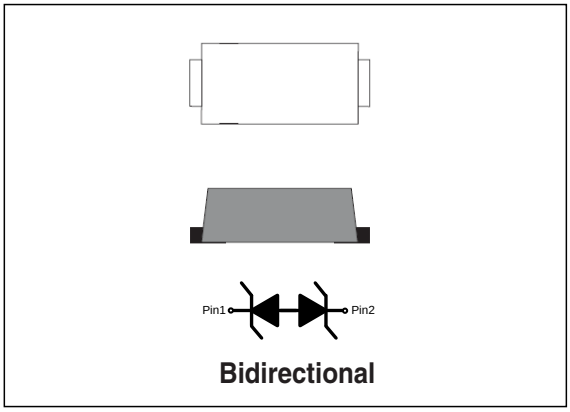
200 Watt Peak Pulse Power

Features

* For surface mounted applications in order to optimize board space
* Low profile package
* Excellent clamping capability
* IEC61000-4-2 ESD 30kV Air,30kV contact compliance
* Protects one I/O line
* Lead-free parts meet RoHS requirments

Applications

* Personal digital assistants (PDA)
* Cellular handsets & Accessories
* Portable devices
* Portable instrumentation



Mechanical data

* **Epoxy :** UL94-V0 rated flame retardant
* **Case :** Molded plastic, SOD123-FL/SMF
* **Terminals :**Plated terminals, solderable per MIL-STD-750,Method 2026
* **Polarity :** Indicated by cathode band; Bidirectional without color band.
* **Mounting Position :** Any
* **Weight :** Approximated 0.0155 gram

Order information

Device	Package	Shipping
SODA24B-SH	SOD-123FL	3000/Tape&Reel

1.Maximum ratings and Electrical Characteristics(AT T =25 AoC unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation on TA=25°C (Note 1,2,5, Fig1)	P_{PPM}	200	W
Peak Forward Surge Current (Note 3)	I_{FSM} (UNI)	20	A
Peak Pulse Current on 10/1000 us waveform (Note 1) Fig 2	I_{PPM}	see Table 1	A
Steady State Power Dissipation (Note 4)	$P_{M(AV)}$	1	W
Operating Junction and Storage Range	T_J, T_{STG}	-55 to +150	°C
Typical Thermal Resistance	$R_{\theta JA}$	180	°C/W

NOTES

1. Non-repetitive current pulse per Fig 3 and derated above T_A=25°C per Fig 2
2. Mounted on 5mm^2 copper pads to each terminal
3. 8.3ms single half sinewave, or equivalent square wave duty cycle=4 pulses per minutes maximum
4. lead temperature at T_L=75°C
5. Peak pulse powe. waveform is tp=10/1000us
6. A transient suppressor is selected according to the working peak reverse voltage(V_{RWM}), Which Should be equal to or greater than the DC or continuous peak operating voltage level

ELECTRICAL CHARACTERISTICS

Part Number	Device Marking Code	Reverse Stand-off Voltage	Breakdown Voltage Min.@IT	Breakdown Voltage Max.@IT	Test Current	Maximum Clamping Voltage	Peak Pulse Current	Reverse Leakage @V_{RWM}
Bi	Bi	VRWM(V)	VBR (V)	VBR (V)	IT(mA)	VC(V)	I_{PP}(A)	I_R(uA)
SODA24B-SH	HZ	24.0	26.7	29.5	1	38.9	5.14	1

2.Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)

Fig.1 Peak Pulse Power Rating Curve

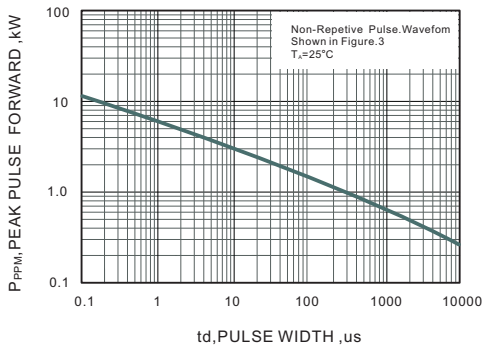


Fig.2 Forward Current Derating Curve

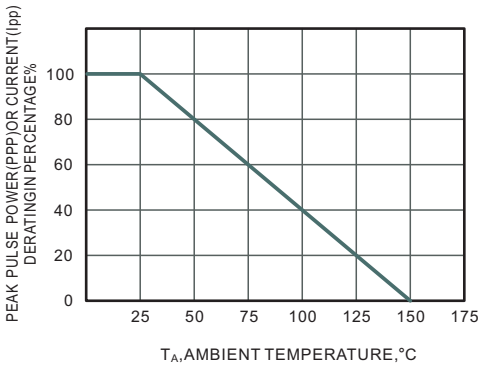


Fig.3 Pulse Waveform

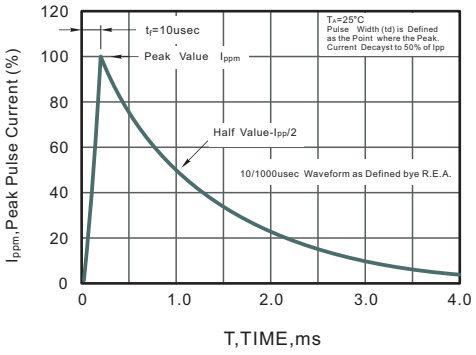
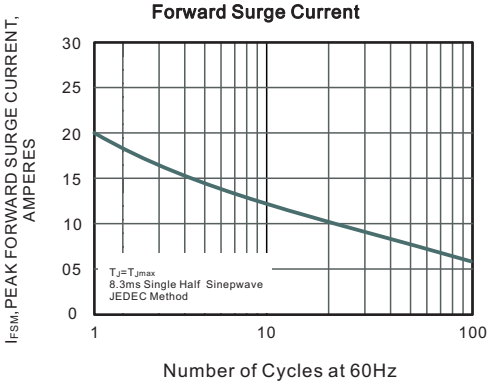
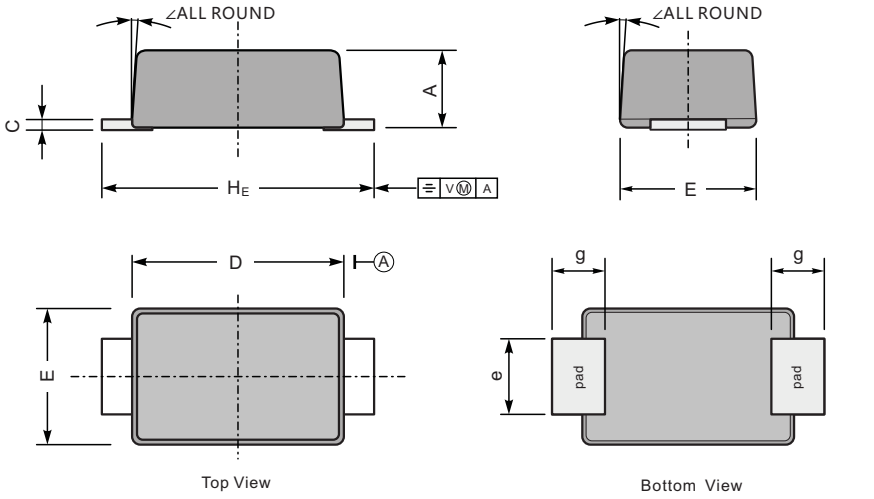


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current

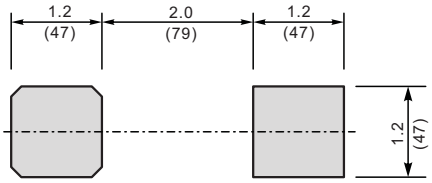


3. dimension:



UNIT		A	C	D	E	e	g	H_E	∠
mm	max	1.1	0.20	2.9	1.9	1.1	0.9	3.8	7°
	min	0.9	0.12	2.6	1.7	0.8	0.7	3.5	
mil	max	43	7.9	114	75	43	35	150	
	min	35	4.7	102	67	31	28	138	

The recommended mounting pad size Unit: mm (mil)



4.Soldering Parameters

Reflow Condition		Lead–free assembly
Pre Heat	Temperature Min (Ts(min))	150°C
	Temperature Max (Ts(max)	200°C
	Time (min to max) (ts)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
Ts(max)to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (ts)	60 – 150 seconds
Peak Temperature (T_P)		260°C
Time within 5°C of actual peak Temperature (tp)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes Max.
Do not exceed		260°C

