

Surface Mount Fast Recovery Rectifiers

Features

- Low profile space
- Ideal for automated placement
- Glass passivated chip junctions
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High temperature soldering: 260°C/10 seconds at terminals
- P/N suffix V means AEC-Q101 qualified, e.g:BA157WSV
- P/N suffix V means Halogen-free

SOD-323



Marking:



BA157WS-----3FG
BA158WS-----3FJ
BA159WS-----3FM

Mechanical Date

- **Case:** SOD-323 molded plastic body over glass passivated chip
- **Terminals:** Solder plated, solderable per JESD22-B102
- **Polarity:** Laser band denotes cathode end
- **Weight:** 0.0063gram

Maximum Ratings & Thermal Characteristics

(T_A = 25 °C unless otherwise noted)

Items	Symbol	BA157WS	BA158WS	BA159WS	UNIT
Maximum repetitive peak reverse voltage	V _{RRM}	400	600	1000	V
Maximum RMS voltage	V _{RMS}	280	420	700	V
Maximum DC blocking voltage	V _{DC}	400	600	1000	V
Maximum average forward rectified current	I _{F(AV)}	0.5			A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	10			A
Typical Current Squared Time	I ² T	0.415			A ² S
Thermal resistance from junction to lead ⁽¹⁾	R _{θJL}	35			°C/ W
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +125			°C

Note 1: Mounted on P.C.B. with 0.036 x 0.06" (0.9 x 1.5mm) copper pad areas.

Electrical Characteristics (T_A = 25 °C unless otherwise noted)

Items	Test conditions	Symbol	BA157WS	BA158WS	BA159WS	UNIT
Instantaneous forward voltage	I _F =0.5A ⁽²⁾	V _F	1.3			V
Maximum reverse current	V _R =V _{DC}	I _R	5			μA
			50			
Reverse recovery time	I _F =0.5A I _R =1A, I _{rr} =0.25A	t _{rr}	150	250	500	nS

Note 2: Pulse test:300μs pulse width,1% duty cycle.

RATING AND CHARACTERISTICS CURVES (BA157WSV THRU BA159WSV)

Fig1 .Forwardcurrent deating cure

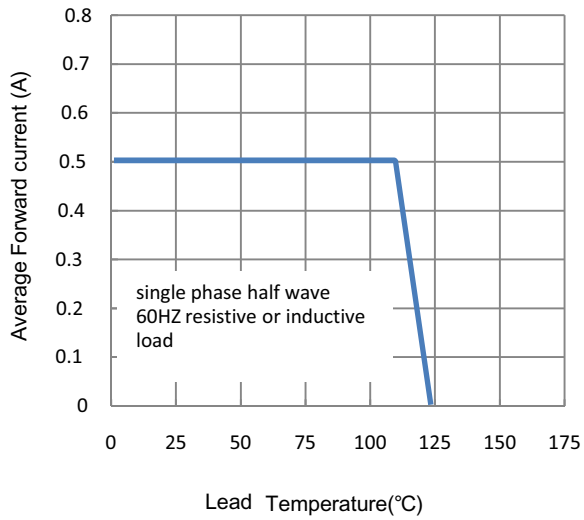


Fig2.MaximumNon-Repetitive peak forward surge current

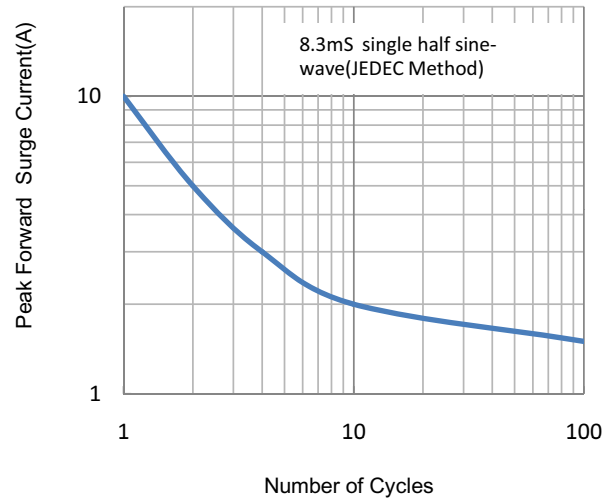


Fig 3 .Maximum Instantaneous Forward Characteristics

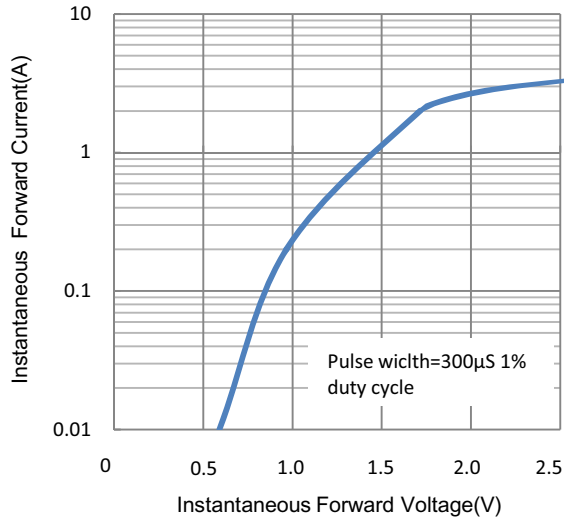
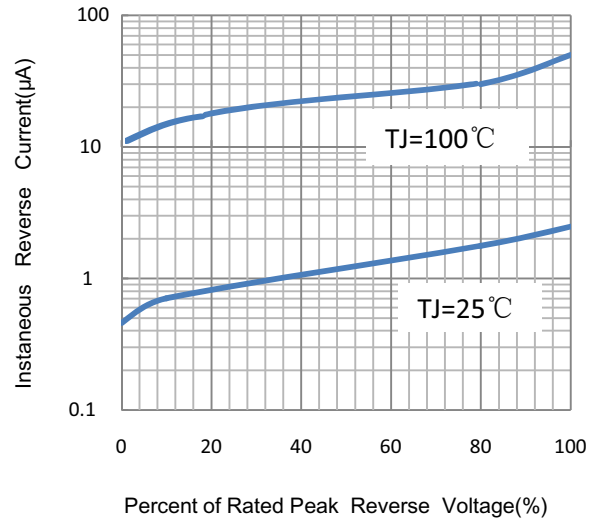
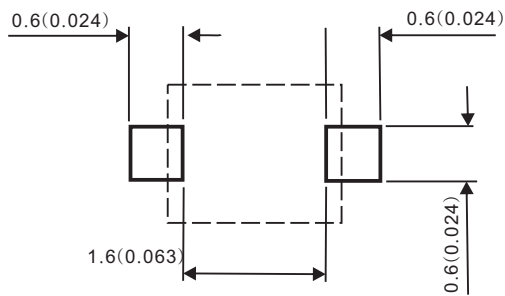
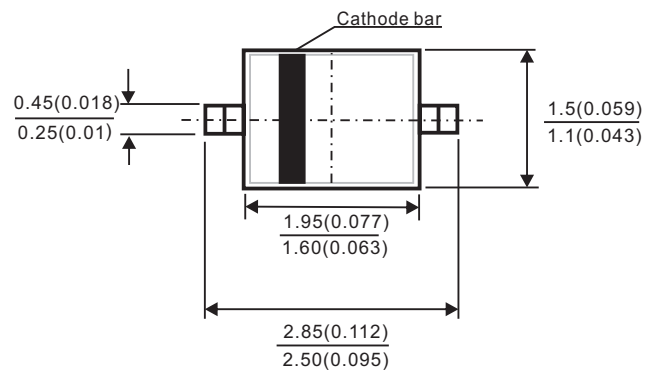
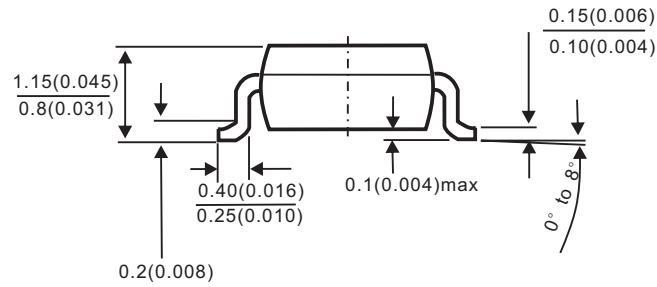


Fig.4 Typical Reverse Characteristics



Package Outline

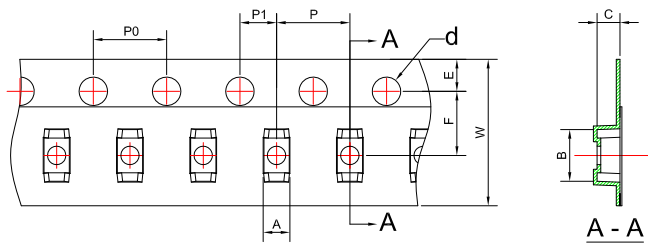
SOD-323



Foot print recommendation

SOD-323 Tape and Reel

SOD-323 Embossed Carrier Tape

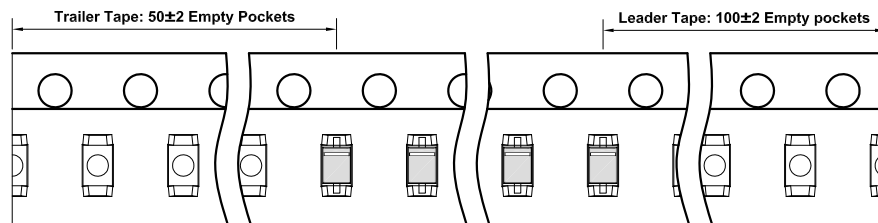


Packaging Description:

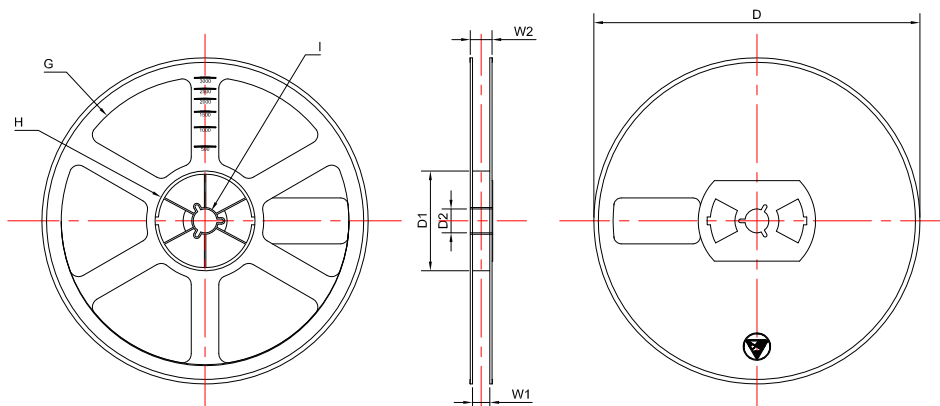
SOD-323 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. The reels are blue in color and made of recyclable plastic.

Dimensions are in millimeter										
Pkg Type	A	B	C	d	E	F	P0	P	P1	W
SOD-323	1.46	2.90	1.25	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00
(Tolerance)	±0.05	±0.05	±0.05	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	+0.3/-0.1

SOD-323 Tape Leader and Trailer



SOD-323 Reel



Unit: mm

Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30
Tolerance	±2	±1	±1	±1	±1	±1	±1	±1

Packaging Quantity

Reel	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)
3,000	7 inch	45,000	210*208*203	180,000	440*440*230

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