



SOD-323 Plastic-Encapsulate Diodes

BAT42WS/BAT43WS SCHOTTKY BARRIER DIODE

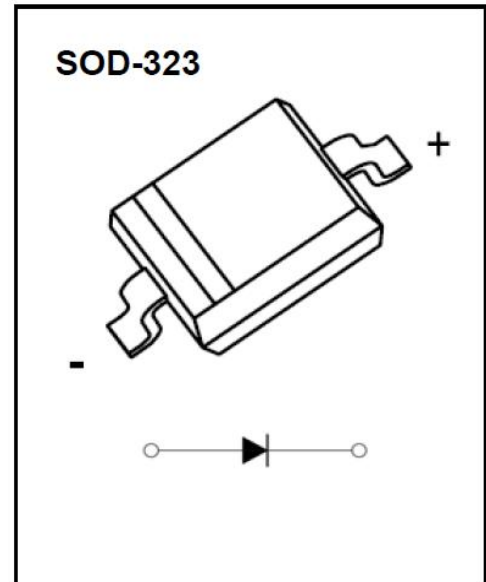
Features

- Low Forward Voltage Drop
- Fast Switching Time
- Surface Mount Package Ideally Suited for Automatic Insertion
- AEC Q101 Qualified

Marking:

BAT42WS	BAT43WS

The marking bar indicates the cathode
Solid dot = Green molding compound device.



Maximum Ratings and Electrical Characteristics, Single Diode @ T_a=25°C

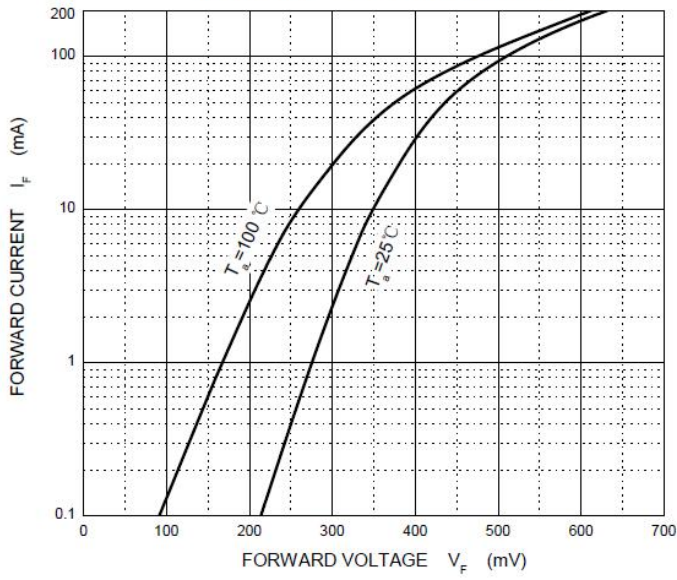
Parameter	Symbol	Limit	Unit
Peak Repetitive Peak Reverse Voltage	V _{RRM}	30	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _R		
RMS Reverse Voltage	V _{R(RMS)}	21	V
Forward Continuous Current	I _{FM}	200	mA
Repetitive Peak Forward Current @t<1.0s	I _{FRM}	500	mA
Non-repetitive Peak Forward Surge Current @t=8.3ms	I _{FSM}	4.0	A
Power Dissipation	P _D	200	mW
Thermal Resistance Junction to Ambient	R _{θJA}	500	°C/W
Operating Junction Temperature Range	T _J	-40 ~ +125	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

Electrical Ratings@T_a=25°C

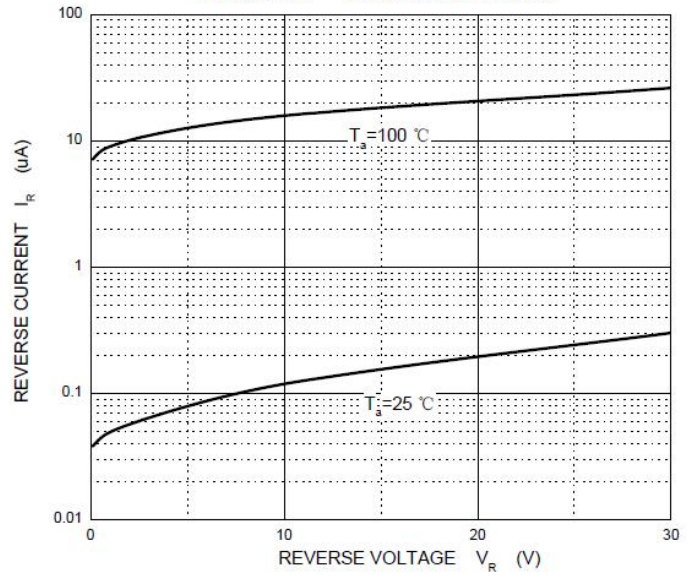
Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Reverse breakdown voltage	V _(BR)	30			V	I _R =10μA
Forward voltage	BothTypes	V _F		1.0	V	I _F =200mA
	BAT42WS	V _F		0.4	V	I _F =10mA
	BAT42WS	V _F		0.65	V	I _F =50mA
	BAT43WS	V _F	0.26	0.33	V	I _F =2mA
	BAT43WS	V _F		0.45	V	I _F =15mA
Reverse current	I _R			0.5	μA	V _R =25V
Capacitance between terminals	C _T			10	pF	V _R =1.0V, f=1.0MHz
Reverse recovery time	t _{rr}			5	ns	I _F =I _R =10mA I _{rr} =0.1X I _R , R _L =100Ω

Typical Characteristics

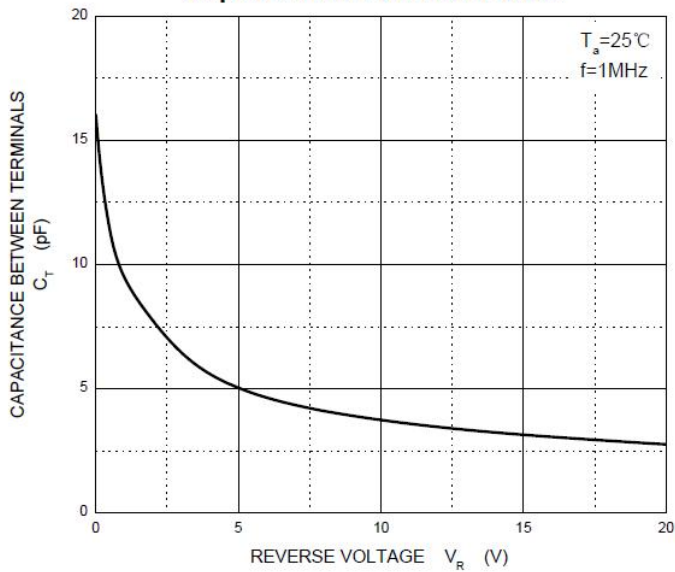
Forward Characteristics



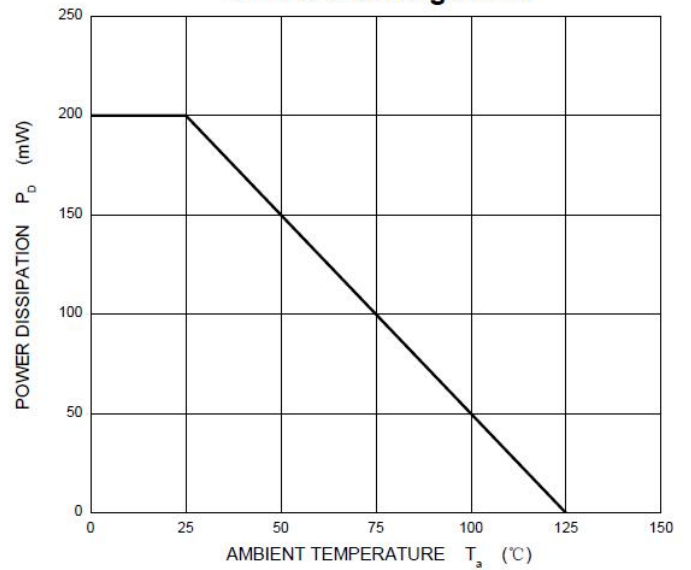
Reverse Characteristics



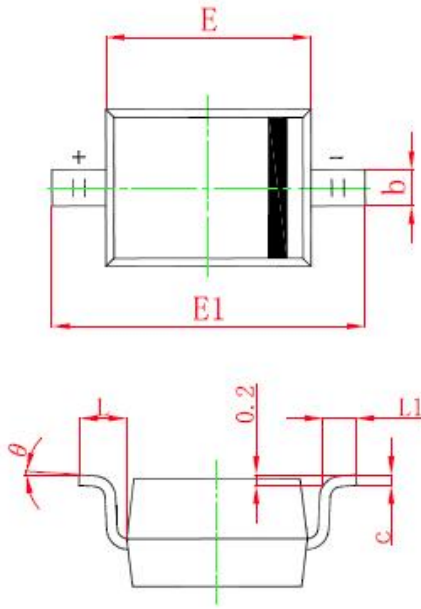
Capacitance Characteristics



Power Derating Curve

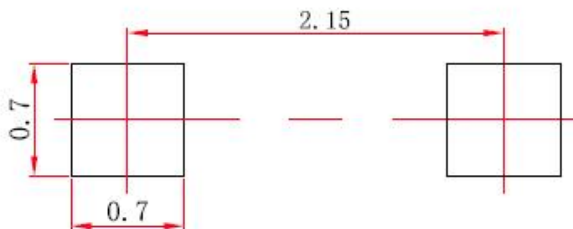


SOD-323 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A		1.100		0.043
A1	0.000	0.100	0.000	0.004
A2	0.800	1.000	0.031	0.039
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	1.200	1.400	0.047	0.055
E	1.600	1.800	0.063	0.071
E1	2.500	2.750	0.098	0.108
L	0.475 REF		0.019 REF	
L1	0.250	0.400	0.010	0.016
θ	0°	8°	0°	8°

SOD-323 Suggested Pad Layout



Note:

1. Controlling dimension: In millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

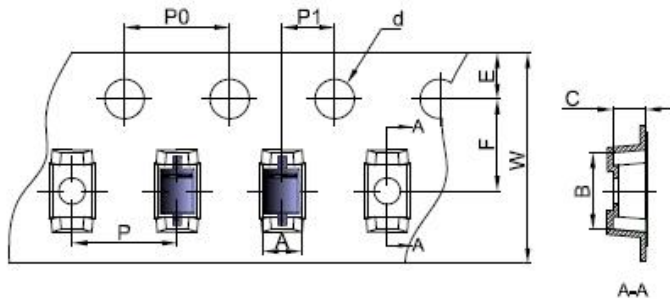
NOTICE

Cloudchild reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. Cloudchild does not assume any liability arising out of the application or use of any product described herein.

ChongQing Cloudchild Technology Co., Ltd. (short for Cloudchild) exerts the greatest possible effort to ensure high quality and reliability. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing Cloudchild products, to comply with the standards of safety in making a safe design for the entire system, including redundancy, fire-prevention measures, and malfunction prevention, to prevent any accidents, fires, or community damage that may ensue. In developing your designs, please ensure that Cloudchild products are used within specified operating ranges as set forth in the most recent Cloudchild products specifications.

SOD-323 Tape and Reel

SOD-323 Embossed Carrier Tape

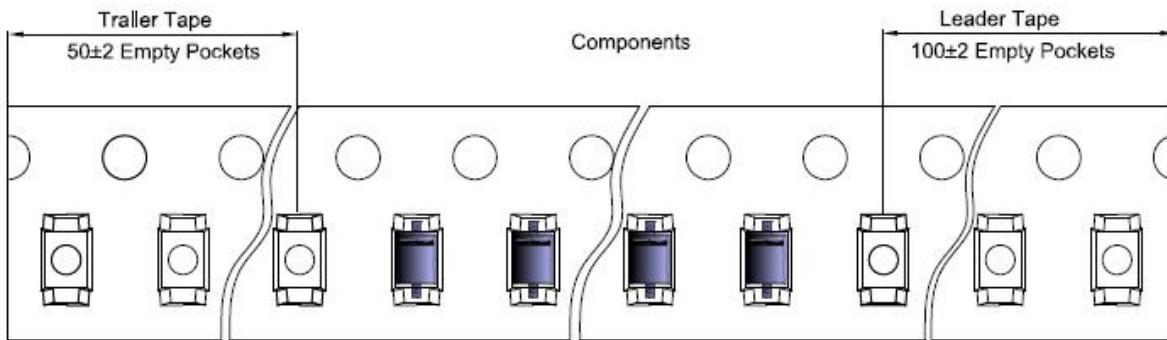


Packaging Description:

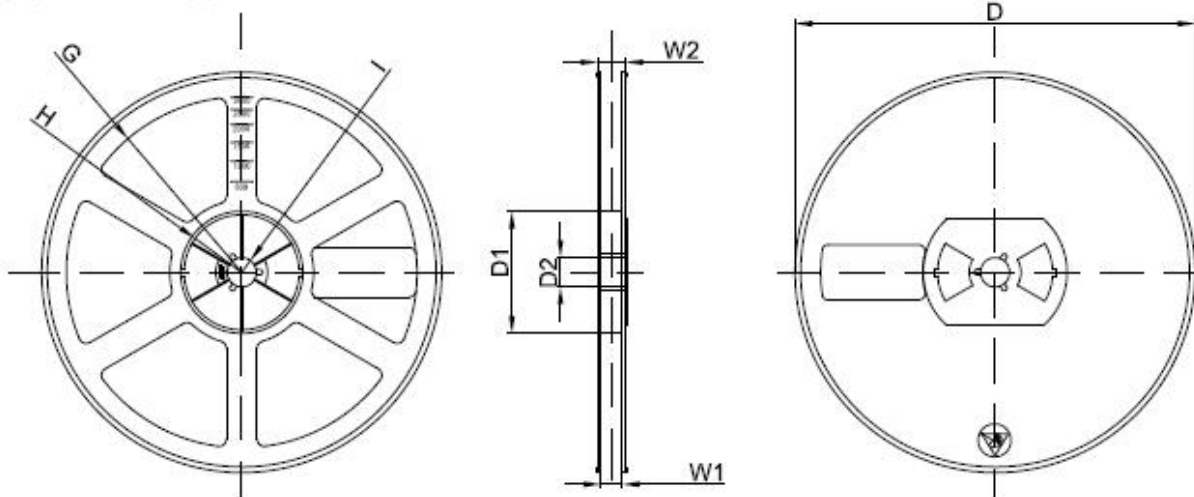
SOD-323 parts are shipped in tape. The carrier tape is made from a dissolvable (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOD-323	1.48	3.3	1.25	Ø1,50	1.75	3.50	4.00	4.00	2.00	8.00

SOD-323 Tape Leader and Trailer



SOD-323 Reel



Dimensions are in millimeter								
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

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 Inch	45,000 pcs	203×203×195	180,000 pcs	438×438×220	

Date of change	Rev #	revise content
2023/08/08	A/0	/