

PRIMARY CHARACTERISTICS	
P_D	500mW
V_{RRM}	30V
I_F	200mA
$V_F@I_F=200mA$	1.0V
$T_J \text{ Max}$	125°C

FEATURES

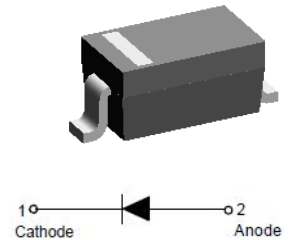
- Low Forward Voltage Drop
- Fast Switching Time
- Surface Mount Package Ideally Suited for Automatic Insertion
- Moisture Sensitivity Level 1

SOD-123

PACKAGE

MARKING: BAT42W

MARKING: BAT43W



MECHANICAL DATA

- Case : Molded plastic,SOD-123
- Polarity : Shown above
- Terminals :Plated terminals, solderable per MIL-STD-750,Method 2026
- Epoxy : UL94-V0 rated flame retardant

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

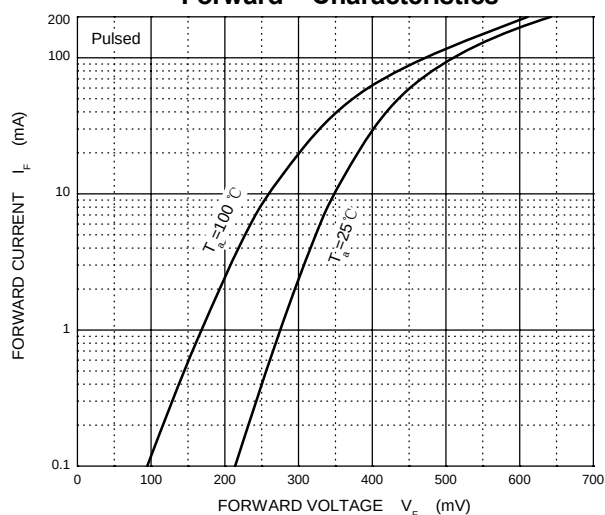
Parameter	Symbol	BAT42W/BAT43W	Unit
Peak Repetitive Peak Reverse Voltage	V_{RRM}	30	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
RMS Reverse Voltage	$V_{R(RMS)}$	21	V
Forward Continuous Current	I_{FM}	200	mA
Repetitive Peak Forward Current @t<1.0s	I_{FRM}	500	mA
Non-repetitive Peak Forward Surge Current @t=8.3ms	I_{FSM}	4.0	A
Power Dissipation	P_D	500	mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	200	°C/W
Junction temperature	T_J	125	°C
Storage Temperature	T_{STG}	-55~+150	°C

Electrical Ratings @Ta=25°C

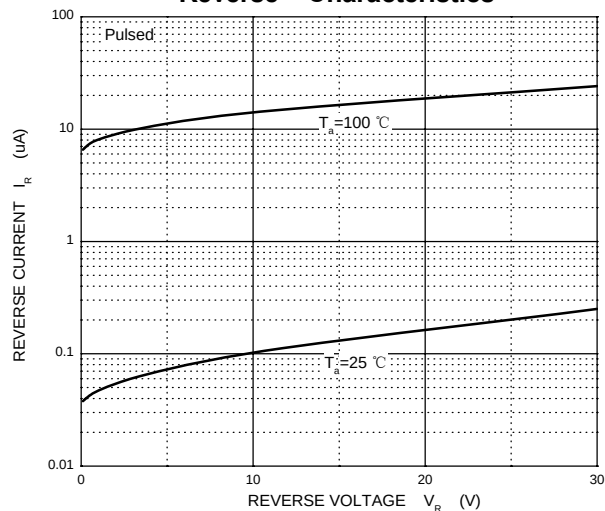
Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Reverse breakdown voltage	$V_{(BR)}$	30			V	$I_R=10\mu A$
Forward voltage	All Types	V_F		1.0	V	$I_F=200mA$
	BAT42W	V_F		0.4	V	$I_F=10mA$
	BAT42W	V_F		0.65	V	$I_F=50mA$
	BAT43W	V_F	0.26	0.33	V	$I_F=2mA$
	BAT43W	V_F		0.45	V	$I_F=15mA$
Reverse current	I_R			0.5	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	$I_F=I_R=10mA$ $I_{rr}=0.1 \times I_R, R_L=100\Omega$

Typical Characteristics BAT42W

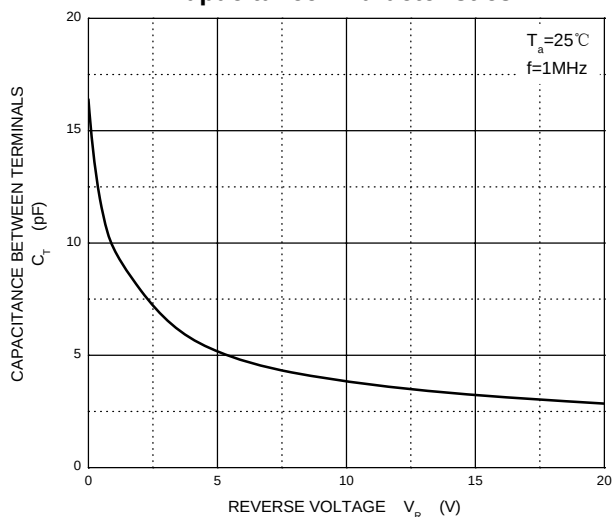
Forward Characteristics



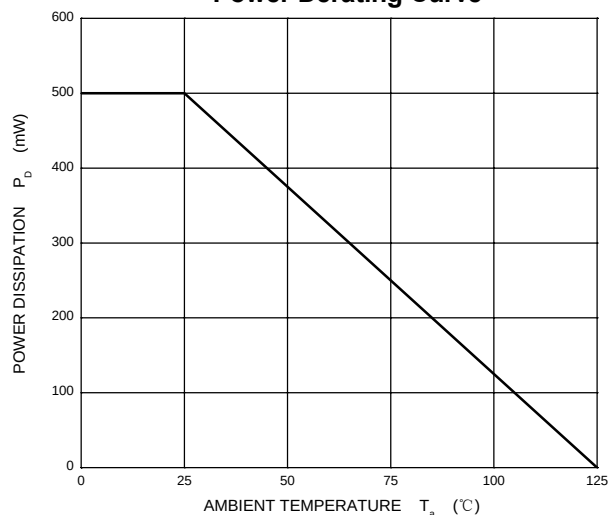
Reverse Characteristics



Capacitance Characteristics

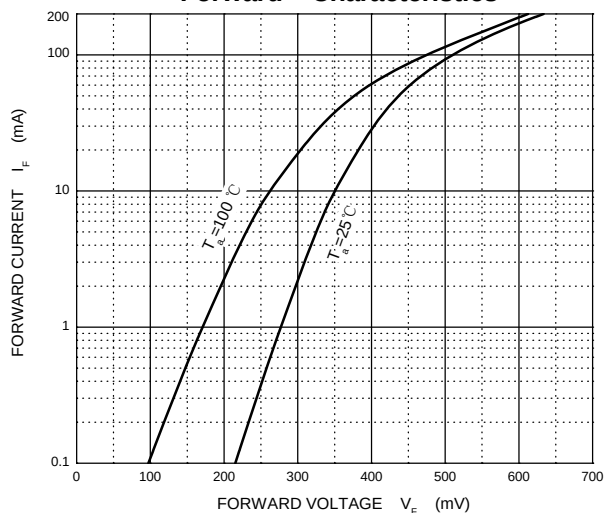


Power Derating Curve

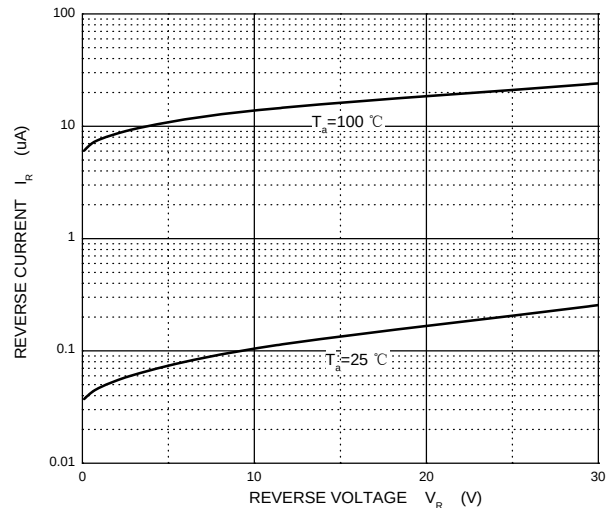


Typical Characteristics BAT43W

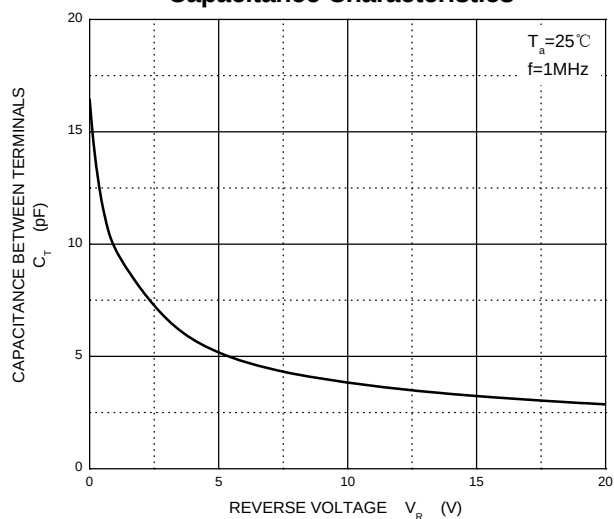
Forward Characteristics



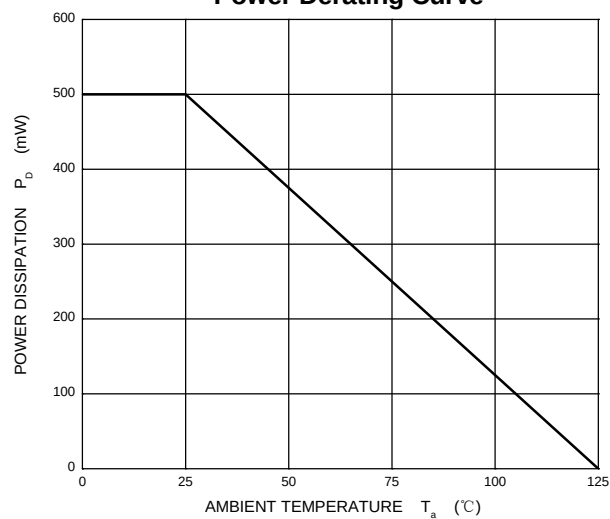
Reverse Characteristics



Capacitance Characteristics

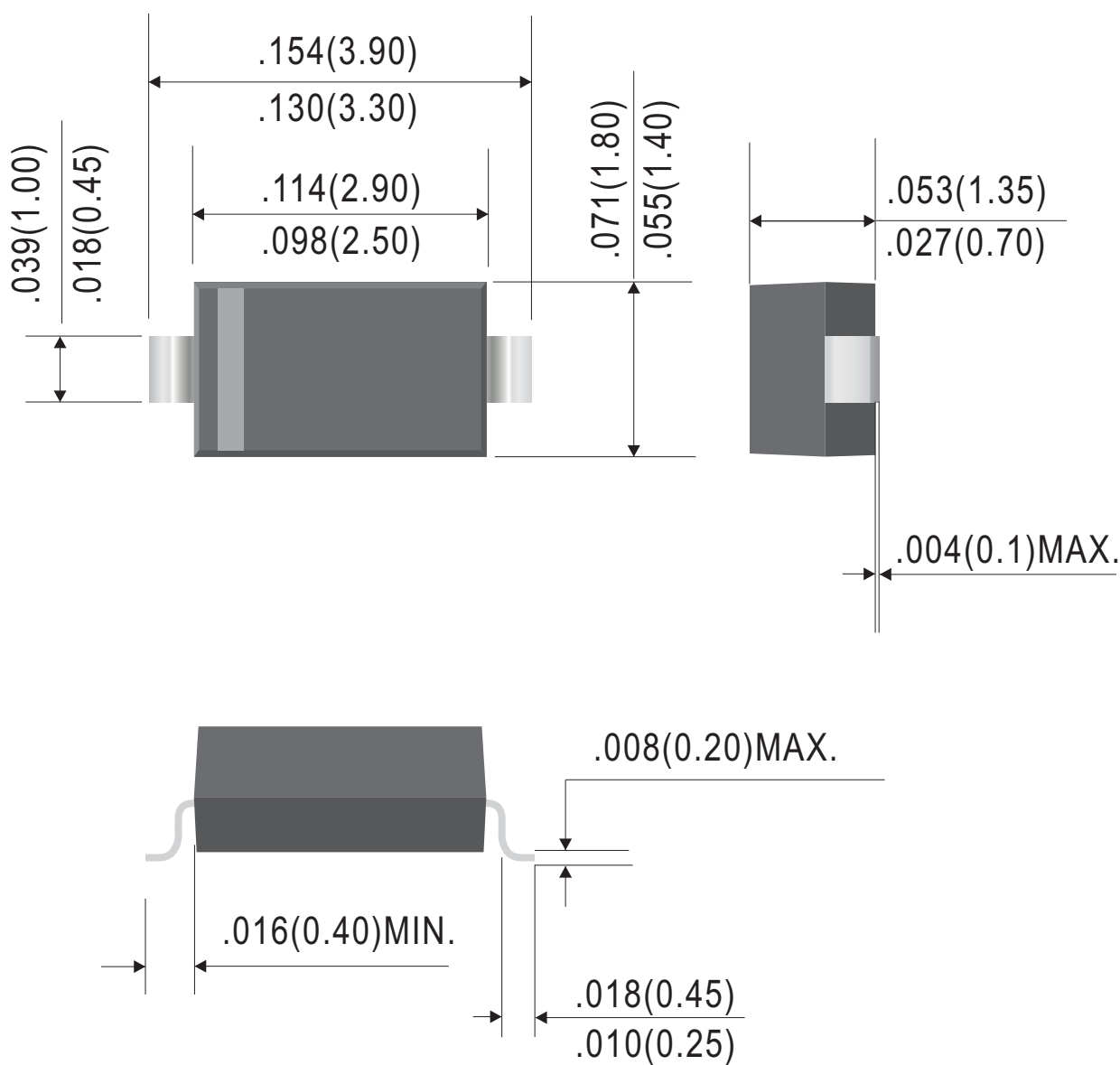


Power Derating Curve



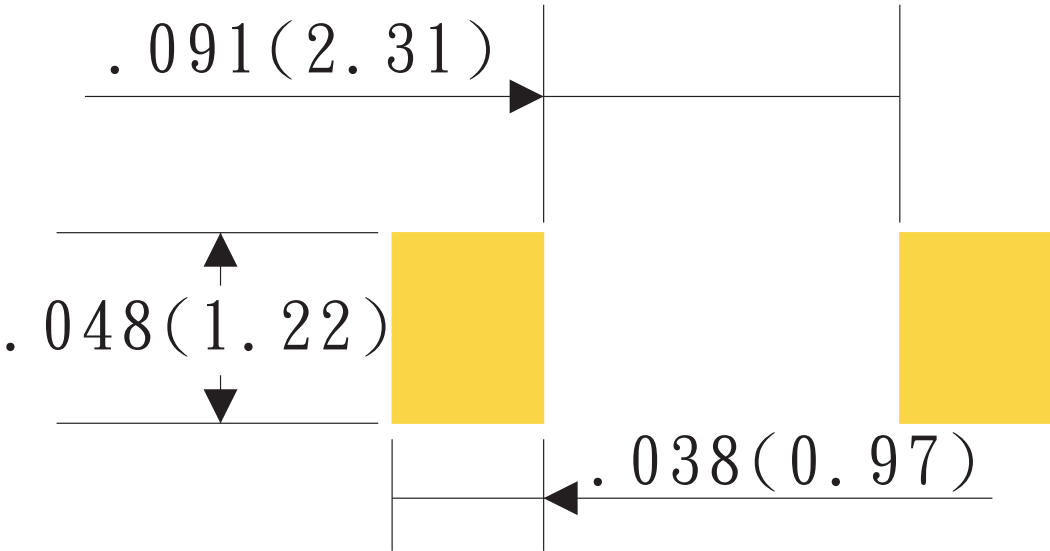
Outline Drawing

SOD-123



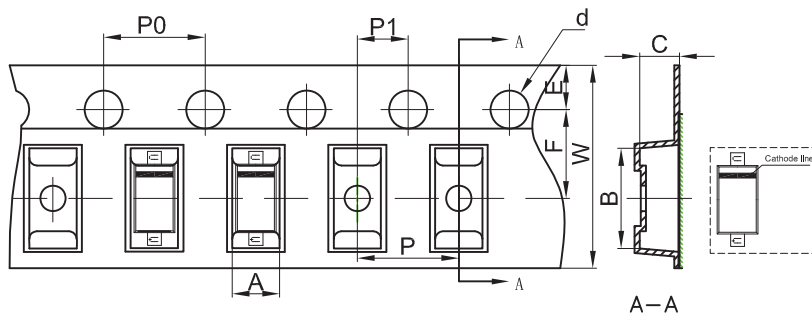
Dimensions in inches and (millimeters)

Rev.D

Suggested Soldering Pad Layout	SOD-123
 Diagram illustrating the suggested soldering pad layout for SOD-123 package. The dimensions are given in inches and millimeters (in parentheses). - Distance between centerlines of pads: .091 (2.31) - Width of each pad: .048 (1.22) - Distance from centerline to edge of pad: .038 (0.97)	
Dimensions in inches and (millimeters)	
RevA	



SOD-123 Embossed Carrier Tape



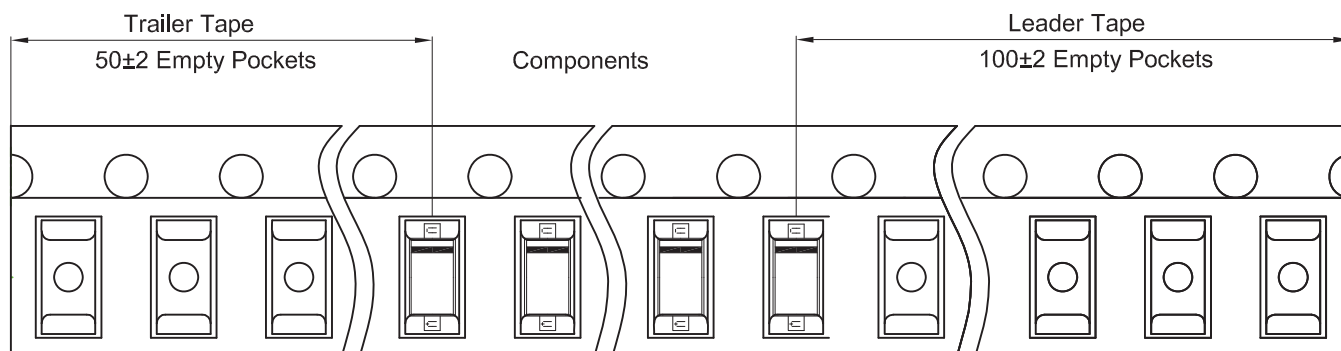
Packaging Description:

SOD-123 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. 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).

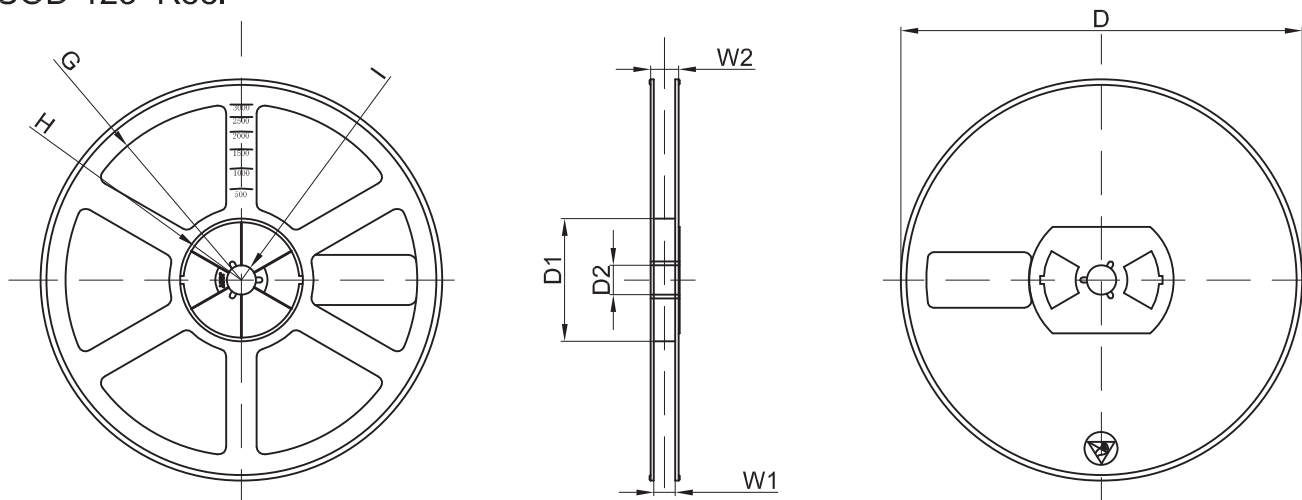
Note: If it is the product of the same polarity, the cathode line should be removed.

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOD-123	1.85	3.94	1.57	Ø1.55	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-123 Tape Leader and Trailer



SOD-123 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
Tolerance	+/-2	+/-1	+/-1	+/-1	+/-1	+/-1	+/-1	+/-1

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	

Ordering Information:

Device PN	Packing
Part Number -T ⁽¹⁾ G ⁽²⁾ -WS	Tape&Reel: 3 Kpcs/Reel

Note: (1) Packing code, Tape & Reel Packing

(2) RoHS product for packing code suffix "G" ; Halogen free product for packing code suffix "H"

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