

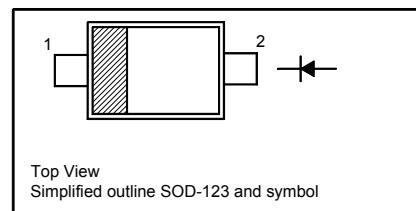
BAT42W, BAT43W-CH

Surface Mount Schottky Barrier Diode

Features

- AEC-Q101 Qualified
- Low forward voltage drop
- Fast switching
- Halogen and Antimony Free(HAF), RoHS compliant

PIN	DESCRIPTION
1	Cathode
2	Anode



Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	30	V
Reverse Voltage	V_R	30	V
Average Forward Rectified Current	$I_{F(AV)}$	200	mA
Repetitive Peak Forward Current at $t < 1\text{ s}$	I_{FRM}	500	mA
Non-Repetitive Peak Forward Surge Current at $t < 10\text{ ms}$	I_{FSM}	2	A
Power Dissipation	P_{tot}	200	mW
Operating Junction and Storage Temperature Range	T_J, T_{Stg}	- 55 to + 125	°C

Thermal Characteristics

Parameter	Symbol	Value	Unit
Typical Thermal Resistance from Junction to Ambient ¹⁾	$R_{\theta JA}$	500	°C/W

¹⁾ Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.

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Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
Reverse Breakdown Voltage at $I_R = 100 \mu\text{A}$	$V_{(\text{BR})R}$	30	-	V
Reverse Current at $V_R = 25 \text{ V}$	I_R	-	500	nA
Forward Voltage at $I_F = 200 \text{ mA}$ at $I_F = 10 \text{ mA}$ at $I_F = 50 \text{ mA}$ at $I_F = 2 \text{ mA}$ at $I_F = 15 \text{ mA}$	V_F	-	1	V
		-	0.4	V
		-	0.65	V
		0.26	0.33	V
		-	0.45	V
Total Capacitance at $V_R = 1 \text{ V}$, $f = 1 \text{ MHz}$	C_T	-	10	pF
Reverse Recovery Time at $I_F = I_R = 10 \text{ mA}$, $I_{rr} = 0.1 \times I_R$, $R_L = 100 \Omega$	t_{rr}	-	5	ns

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Electrical Characteristics Curves

Fig 1. Reverse Characteristics Curve

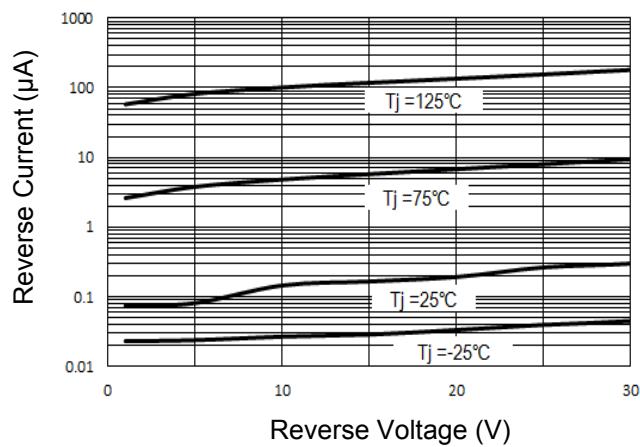


Fig 2. Forward Characteristics Curve

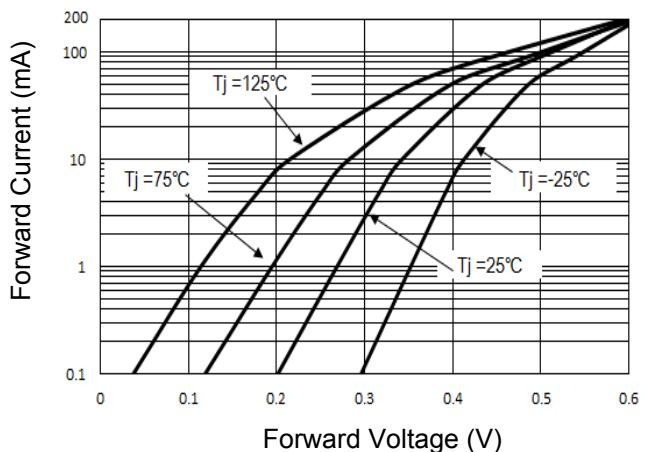


Fig 3. Junction Capacitance

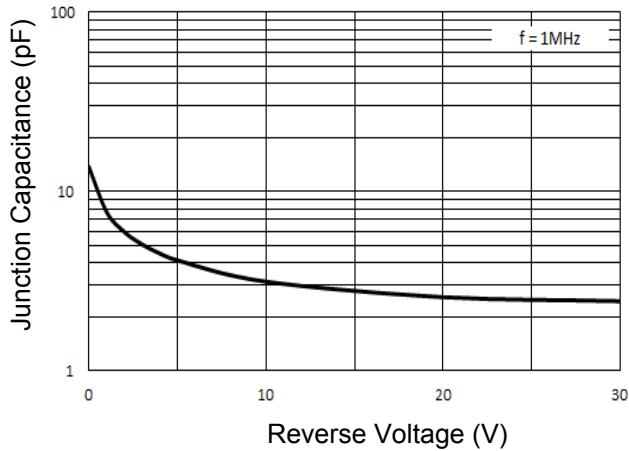
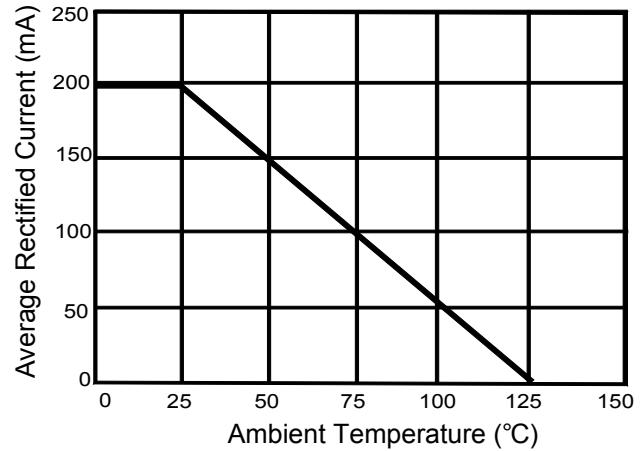


Fig 4. Average Rectified Current Derating Curve

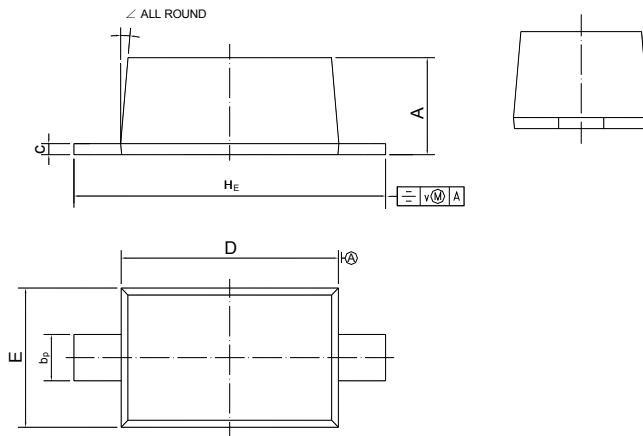


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PACKAGE OUTLINE

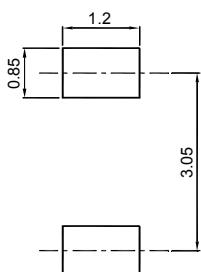
Plastic surface mounted package; 2 leads

SOD-123



UNIT	A	b _p	c	D	E	H _E	v	∠
mm	1.15 1.05	0.6 0.5	0.135 0.100	2.7 2.6	1.65 1.55	3.85 3.55	0.2	5°

Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	(inch)	mm	(inch)	
SOD-123	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

Marking information

" ** " = Part No.

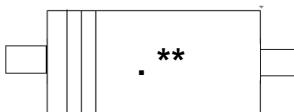
BAT42W : PX

BAT43W : PY

" III " = Cathode line

" • " = HAF (Halogen and Antimony Free)

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