



BAT42WS THRU BAT43WS

Reverse Voltage 30 Volts Forward Current - 0.2 Ampere

SCHOTTKY DIODES

Features

- ◆ For use in low voltage, high frequency inverters
- ◆ Free wheeling, and polanty protection applications

SOD-323



Mechanical Data

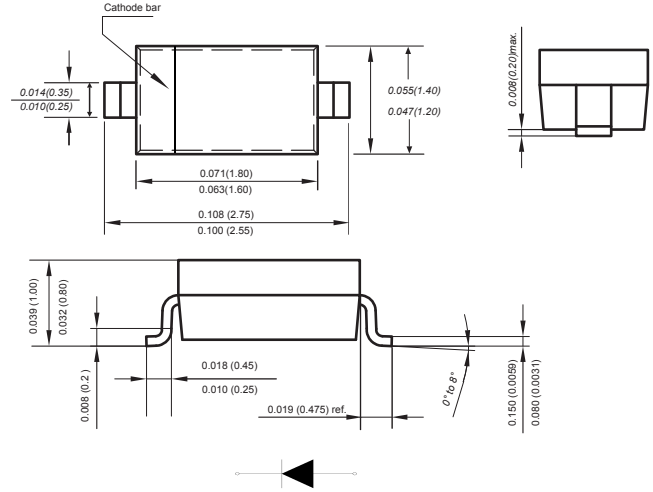
Case: JEDEC SOD-323 molded plastic body

Terminals: Plated leads solderable per MIL-STD-750, Method 2026

Polarity: Polarity symbols marked on case

Weight : 0.0007 ounce, 0.02 grams

Marking: BAT42WS:S7, BAT43WS:S8



Dimensions in inches and (millimeters)

Absolute Maximum Ratings at 25 °C

PARAMETER	SYMBOLS	BAT42WS/BAT43WS	UNITS
Peak repetitive peak reverse voltage	V_{RRM}	30	VOLTS
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 @ <1.0s	I_{FRM}	500	mA
Peak forward surge current @ <10ms	I_{FSM}	4.0	A
Power dissipation	P_d	200	mW
Thermal resistance junction to ambient	$R_{\theta JA}$	625	K/W
Storage temperature	T_{STG}	-55 to +125	°C

Characteristics at Ta= 25 °C

PARAMETER	SYMBOLS	Min.	Typ.	Max.	Unit	Conditions
Reverse breakdown voltage	V_{BR}	30			V	$I_R=10\mu A$
Forward voltage	V_F			1.0	V	$I_F=200mA$
	V_F			0.4	V	$I_F=10mA$
	V_F			0.65	V	$I_F=50mA$
	V_F	0.26		0.33	V	$I_F=2mA$
	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	$V_R=1V, f=1.0MHz$
Reverse recovery time	t_{rr}			5	ns	$I_F=I_R=10mA$ $I_{rr}=0.1X I_R, R_L=100 \Omega$



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Typical Characteristics

FIG. 1- FORWARD CURRENT DERATING CVRVE

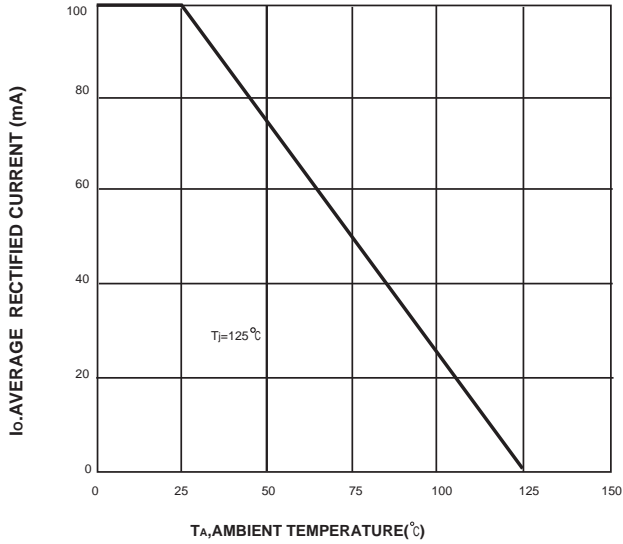


FIG. 2-TYPICAL FORWARD CHARACTERISTIC

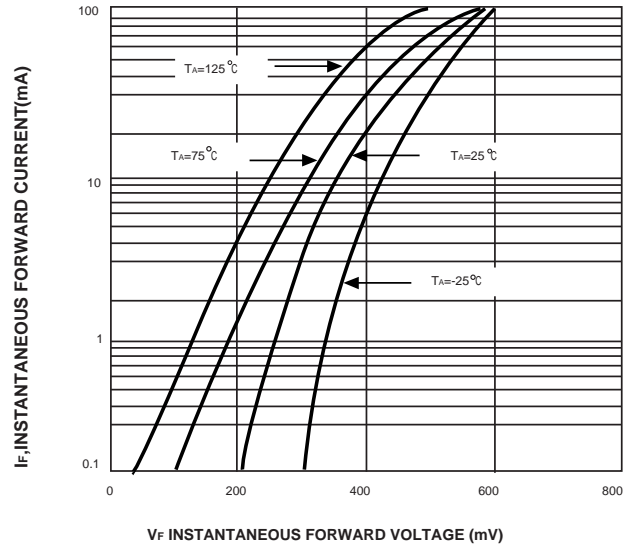


FIG. 3- TYPICAL REVERSE CHARACTERISTICS

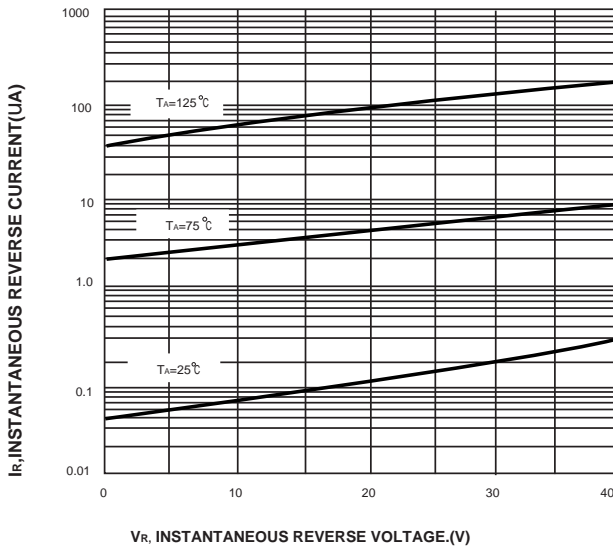
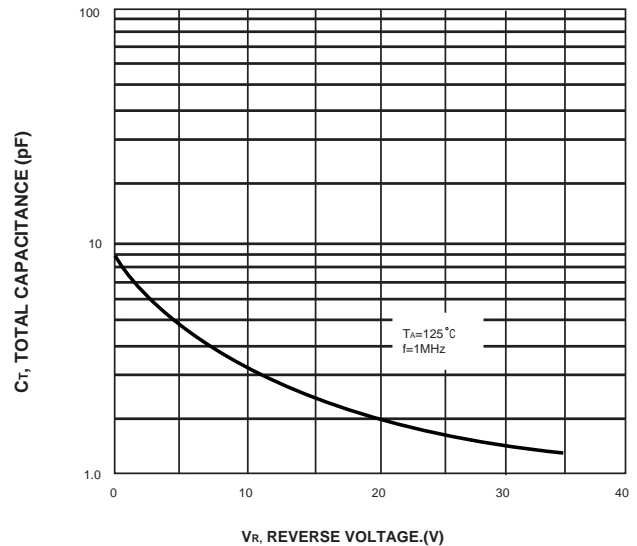


FIG. 4- TOTAL CAPACITANCE VS REVERSE VOLTAGE



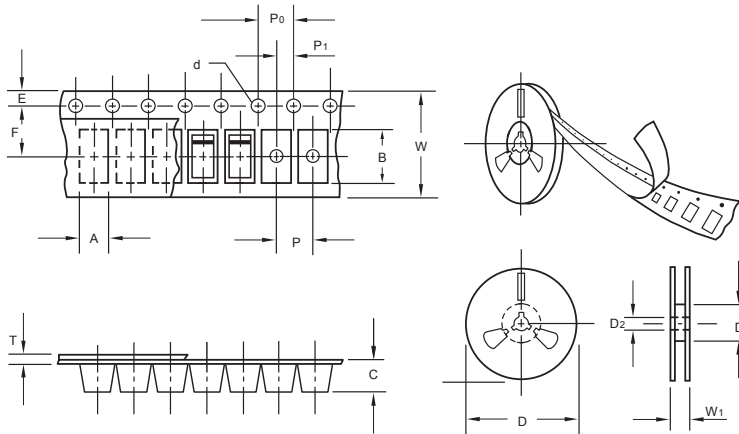
The curve above is for reference only.



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Packing information



unit:mm

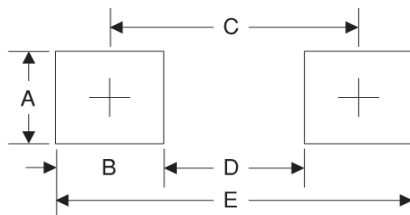
Item	Symbol	Tolerance	SOD-323
Carrier width	A	0.1	2.1
Carrier length	B	0.1	4.0
Carrier depth	C	0.1	1.60
Sprocket hole	d	0.05	1.55
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D ₁	min	50.0
Feed hole diameter	D ₂	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P ₀	0.1	4.00
Embossment center	P ₁	0.1	2.00
Overall tape thickness	T	0.1	0.25
Tape width	W	0.3	8.15
Reel width	W ₁	1.0	10.5

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SOD-323	7"	3,000	4.0	45,000	210*208*203	178	430*430*235	180,000	

Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	0.7	0.028
B	0.7	0.028
C	2.15	0.085
D	1.8	0.071
E	2.85	0.112