BORN SEMICONDUCTOR

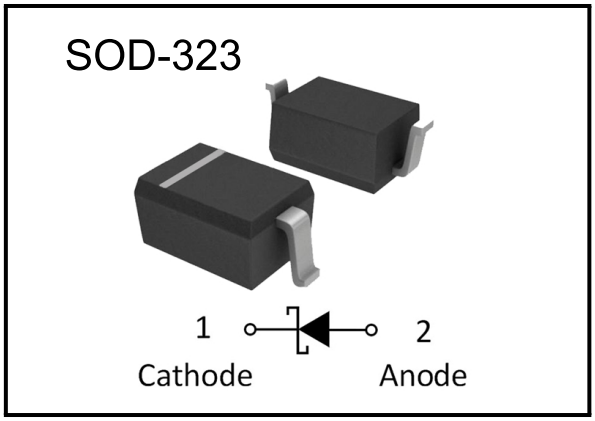
BAT42WS / BAT43WS

Schottky Barrier Diode

Features

- Low forward voltage drop
- Fast Switching Time
- Surface Mount Package Ideally Suited for Automatic Insertion

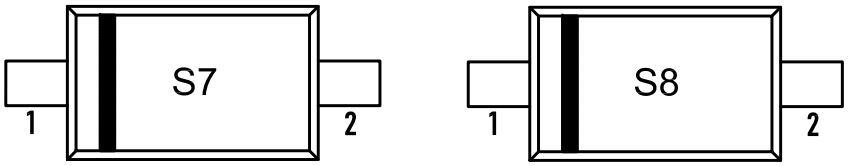
Package



Description

- Case: molded plastic
- Polarity: Color band denotes cathode
- Package: SOD-323 Plastic Package

Marking



BAT42WS BAT43WS

Ordering information

Order code	Package	Marking	Base qty	Delivery mode
BAT42WS	SOD-323	S7	3K	Tape and reel
BAT43WS	SOD-323	S8	3K	Tape and reel

Maximum Ratings @T_A=25°C unless otherwise noted

Symbol	Parameter	Value	Unit
V_{RRM}	Peak Repetitive Reverse Voltage	30	V
V_{RWM}	Working Peak Reverse Voltage	30	V
V_R	DC Blocking Voltage	30	V
$V_{R(RMS)}$	RMS Reverse Voltage	21	V
I_F	Forward Continuous Current	200	mA
I_{FRM}	Repetitive Peak Forward Surge Current @ tp<1.0s,Duty Cycle<50%	500	mA
I_{FSM}	Forward Surge Current @tp=10ms	4.0	mA
P_d	Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	500	°C/W
T_J	Operating and Storage Temperature Range	-40 to +125	°C
T_{STG}	Operating and Storage Temperature Range	-55 to +150	°C

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Electrical Characteristics @T_A=25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_{BR}	Reverse Breakdown Voltage	I_R=10uA	30	–	–	V
V_F	Forward Voltage (BAT42WS)	I_F=10mA	–	–	0.40	V
		I_F=50mA	–	–	0.65	
		I_F=200mA	–	–	1.00	
	Forward Voltage (BAT43WS)	I_F=2mA	0.26	–	0.33	
		I_F=15mA	–	–	0.45	
		I_F=200mA	–	–	1.00	
I_R	Peak Reverse Current	V_R=25V	–	–	0.5	uA
C_T	Capacitance between terminals	V_R=1V, f=1MHZ	–	–	10	pF
t_{rr}	Reverse recovery time	I_F=I_R=10mA,I_{rr}=0.1xI_R R_L=100Ω	–	–	5	ns

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Schottky Barrier Diode

Typical Performance Characteristics(T_J = 25 °C, unless otherwise noted)

Figure 1: Forward Voltage

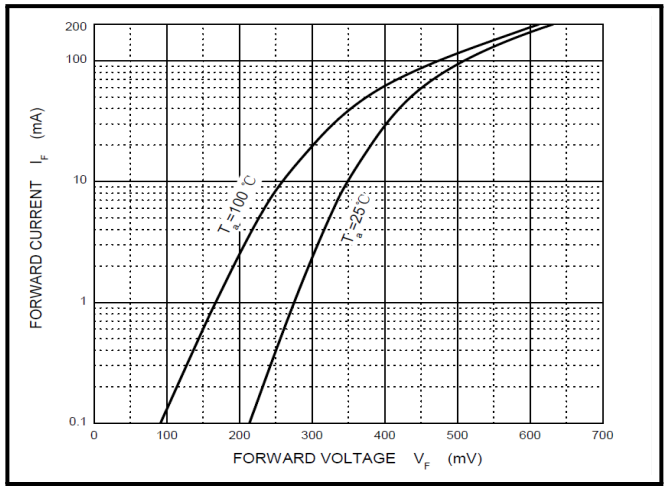


Figure 2: Reverse Characteristics

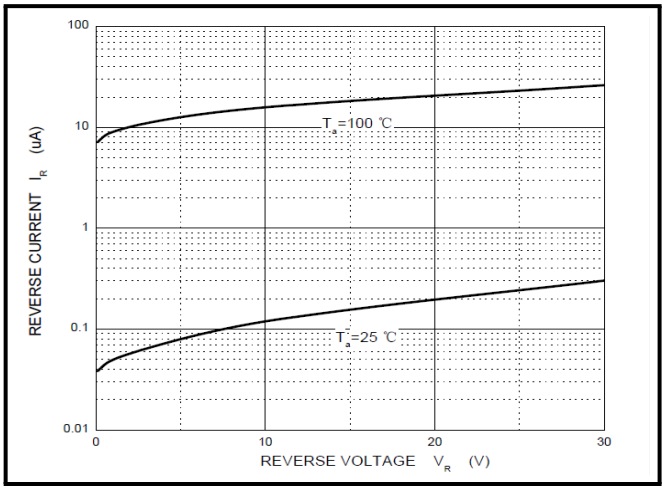


Figure 3: Capacitance Characteristics

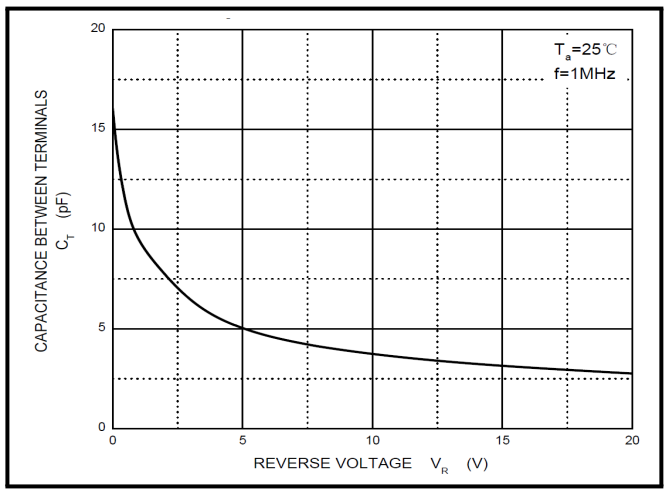
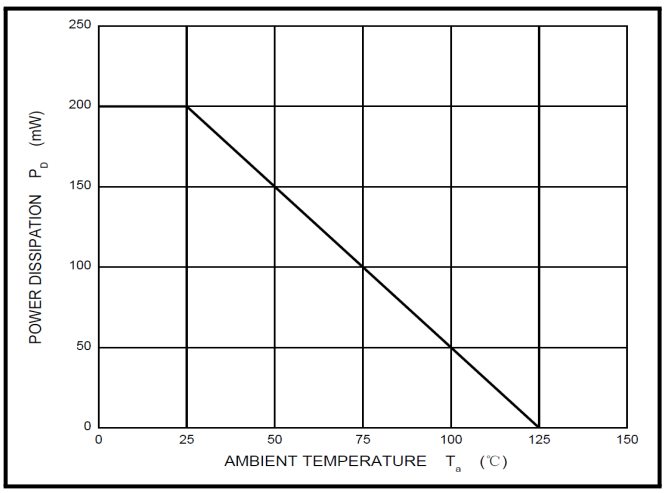


Figure 4: Power Derating Curve



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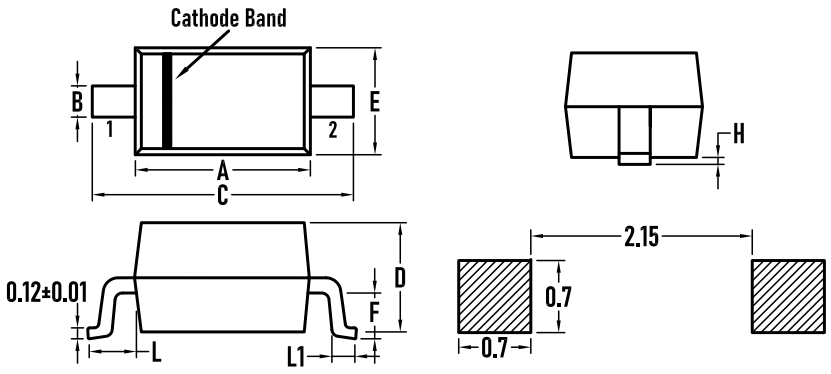
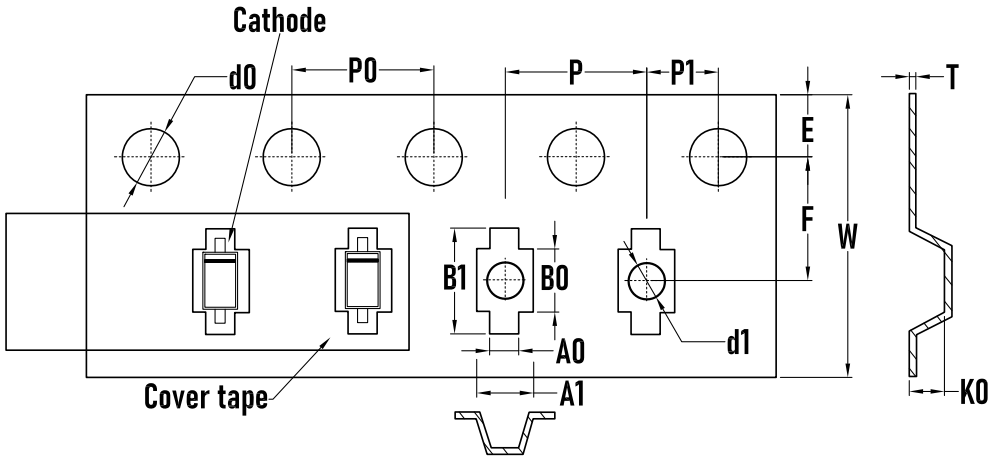
Schottky Barrier Diode

Outline Drawing - SOD-323



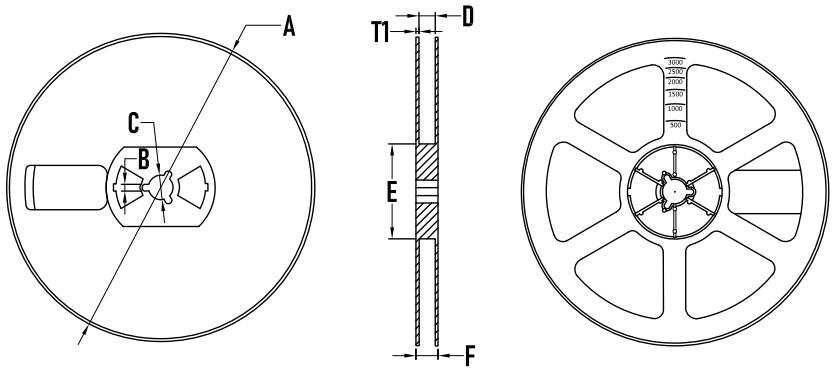
SYMBOL	MILLIMETER		INCHES	
	MIN.	MAX.	MIN.	MAX.
A	1.600	1.800	0.063	0.071
B	0.250	0.350	0.010	0.014
C	2.500	2.700	0.098	0.106
D	–	1.000	–	0.039
E	1.200	1.400	0.047	0.055
F	0.080	0.150	0.003	0.006
L	0.475REF		0.019REF	
L1	0.250	0.400	0.010	0.016
H	0.000	0.100	0.000	0.004

Packaging Tape - SOD-323



SYMBOL	MILLIMETER
A0	0.80±0.10
A1	1.48±0.10
B0	1.80±0.10
B1	3.00±0.10
d0	1.55±0.10
d1	1.00±0.05
E	1.75±0.10
F	3.50±0.10
K0	1.05±0.10
P	4.00±0.10
P0	4.00±0.10
P1	2.00±0.10
W	8.00±0.30
T	0.25 ±0.05

Packaging Reel



SYMBOL	MILLIMETER
A	177.8±0.2
B	2.7±0.2
C	13.5±0.2
D	9.6±0.3
E	54.5±0.2
F	12.3±0.3
T1	1.0±0.2
Quantity	3000PCS

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