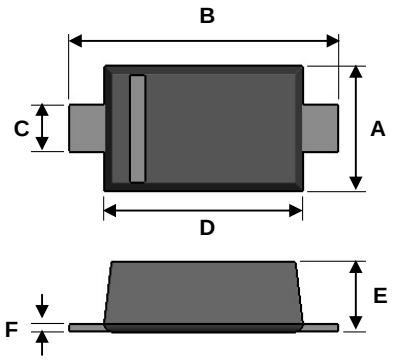
TAIWAN SEMICONDUCTOR

B0530WS
200mW, Low V_F SMD Schottky Barrier Diode

Small Signal Diode

SOD-323F



Features

- ✧Fast switching device(T_{rr}<4.0nS)
- ✧Surface device type mounting
- ✧Moisture sensitivity level 1
- ✧Matte Tin(Sn) lead finish with Nickel(Ni) underplate
- ✧Pb free version and RoHS compliant
- ✧Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code

Mechanical Data

- ✧Case : Flat lead SOD-323 small outline plastic package
- ✧Terminal: Matte tin plated, lead free., solderable per MIL-STD-202, Method 208 guaranteed
- ✧High temperature soldering guaranteed: 260℃/10s
- ✧Polarity : Indicated by cathode band
- ✧Weight : 4.85±0.5 mg
- ✧Marking Code : B3

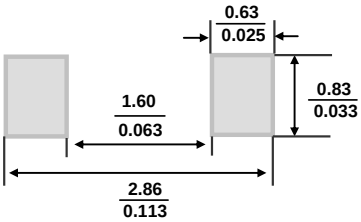
Dimensions	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.15	1.35	0.045	0.053
B	2.30	2.70	0.091	0.106
C	0.25	0.40	0.010	0.016
D	1.60	1.80	0.063	0.071
E	0.80	1.00	0.031	0.039
F	0.05	0.20	0.002	0.008

Ordering Information

Package	Part No.	Packing	Marking
SOD-323F	B0530WS RR	3K / 7" Reel	B3
SOD-323F	B0530WS RRG	3K / 7" Reel	B3

Pin Configuration

Suggested PAD Layout



Maximum Ratings and Electrical Characteristics

Rating at 25℃ ambient temperature unless otherwise specified.

Maximum Ratings

Type Number	Symbol	Value	Units
Power Dissipation	P_D	200	mW
Repetitive Peak Reverse Voltage	V_{RRM}	30	V
Mean Forward Current	I_O	500	mA
Non-Repetitive Peak Forward Surge Current Pulse Width= 8.3 mS (Singal Half -wave)	I_{FSM}	5.0	A
Thermal Resistance (Junction to Ambient) (Note)	RθJA	426	℃/W
Junction and Storage Temperature Range	T_J, T_{STG}	-65 to + 125	℃

Notes:1. Valid provided that electrodes are kept at ambient temperature

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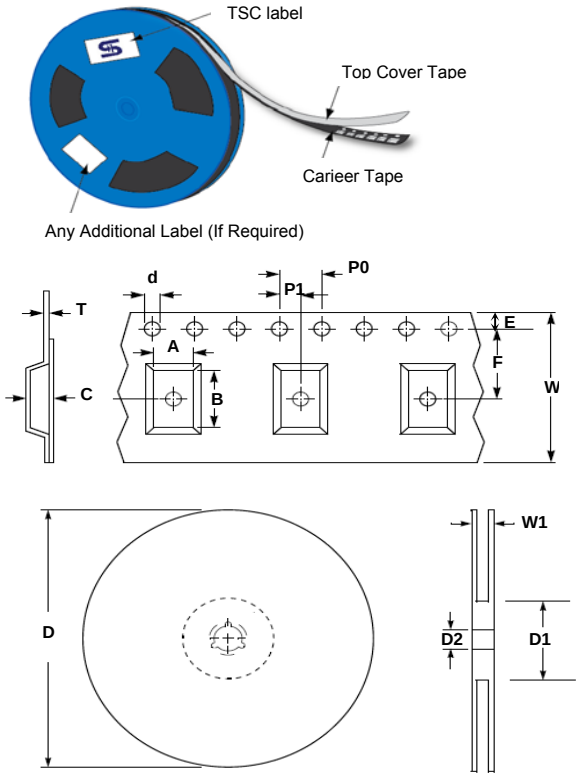
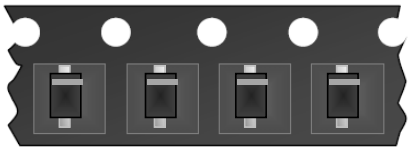
Electrical Characteristics

Type Number		Symbol	Min	Max	Units
Reverse Breakdown Voltage	I_R= 500uA	$V_{(BR)}$	30	-	V
Forward Voltage	I_F= 100mA	V_F	-	0.36	V
	I_F= 500mA		-	0.47	
Reverse Leakage Current	V_R= 15V	I_R	-	80	μA
	V_R= 20V			100	
	V_R= 30V			500	
Junction Capacitance	V_R=0, f=1.0MHz	C_J	-	58.0	pF

Tape & Reel specification



Item	Symbol	Dimension(mm)
Carrier width	A	1.7 ± 0.10
Carrier length	B	3.73 ± 0.10
Carrier depth	C	1.68 ±0.10
Sprocket hole	d	1.5 ± 0.1
Reel outside diameter	D	178 ± 1
Reel inner diameter	D1	55 Min
Feed hole width	D2	13.0 ± 0.20
Sprocke hole position	E	1.75 ±0.10
Punch hole position	F	3.50 ±0.05
Sprocke hole pitch	P0	4.00 ±0.10
Embossment center	P1	2.00 ±0.05
Overall tape thickness	T	0.23 ± 0.05
Tape width	W	8.00 ±0.20
Reel width	W1	14.4 Max



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Rating and Characteristic Curves

FIG 1 Typical Forward Characteristics

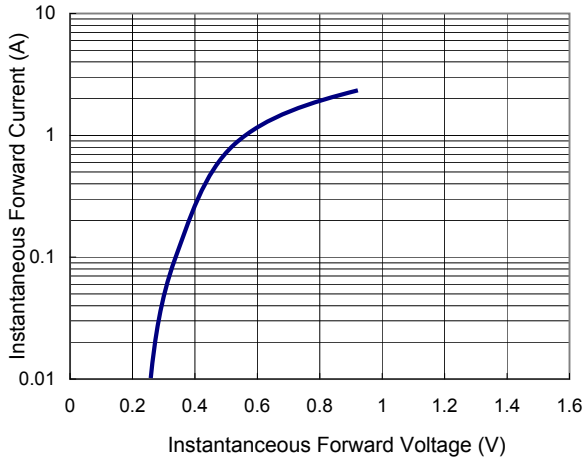

FIG 2 Forward Current Derating Curve

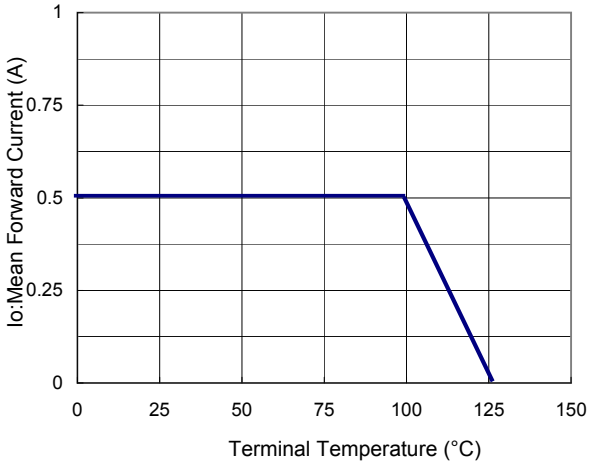

FIG 3 Admissible Power Dissipation Curve

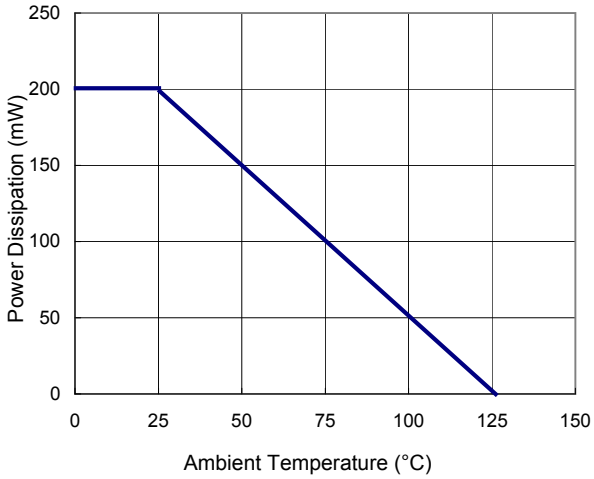

FIG 4 Typical Junction Capacitance

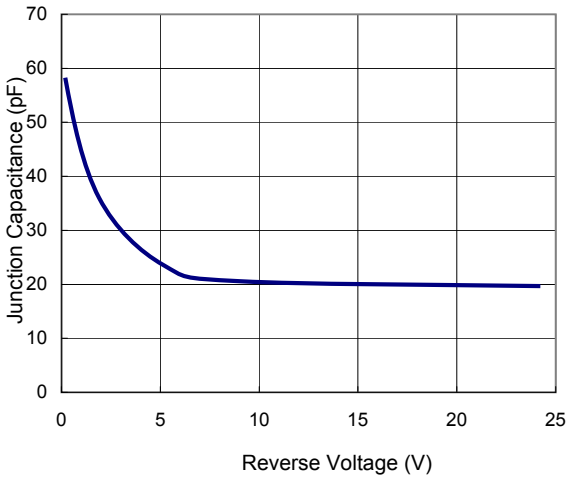

FIG 5 Typical Reverse Characteristics