

**Plastic-Encapsulate Schottky Barrier Diode****PRIMARY CHARACTERISTICS**

PD	200mW
VR	20V
I _O	0.5A
T _{J,Max}	125°C

**SCHEMATIC DIAGRAM
SOD-323 PACKAGE**

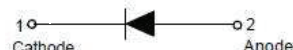
Marking : D



or



M = Month Code

**FEATURES**

- Low current rectifier schottky diode
- Low voltage, low inductance
- For power supply
- Moisture Sensitivity Level 1

MECHANICAL DATA

- Case : Molded plastic,SOD-323
- 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 S	ymbol	Limit	Unit
Peak reverse voltage	V _{RM}	30	V
DC reverse voltage	V _R	20	V
Mean rectifying current	I _O	0.5	A
Non-repetitive Peak Forward Surge Current@t=8.3ms	I _{FSM}	2	A
Power dissipation	P _d	200	mW
Thermal resistance junction to ambient	R _{θJA}	500	°C/W
Junction temperature	T _j	125	°C
Storage temperature	T _{stg}	-55~+125	°C

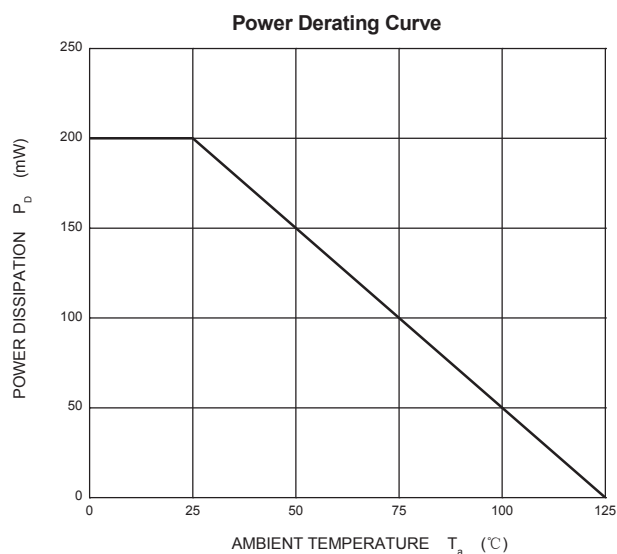
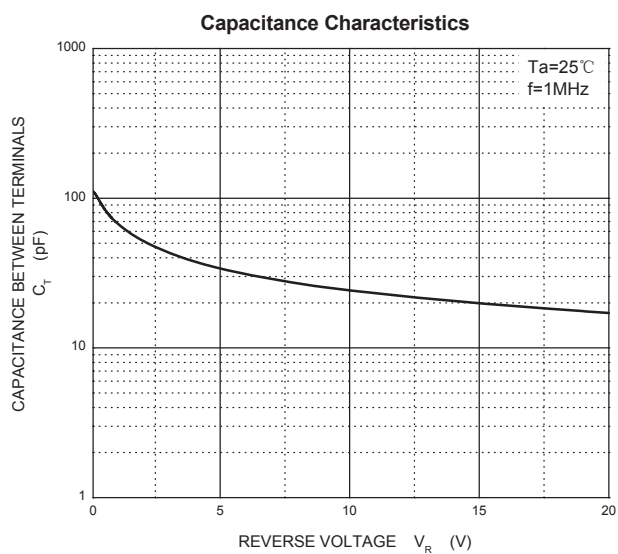
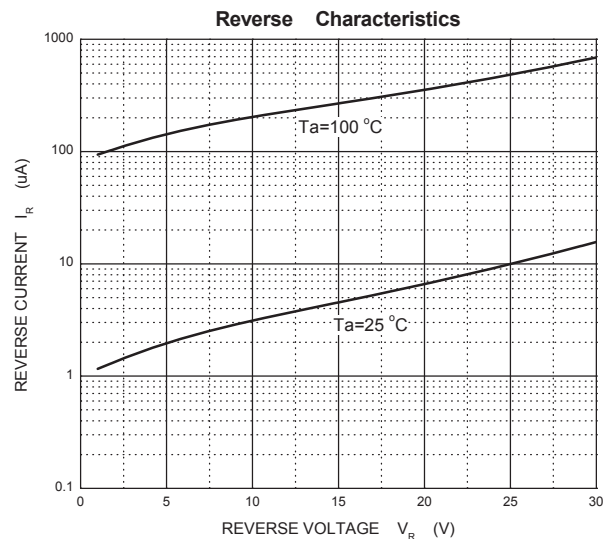
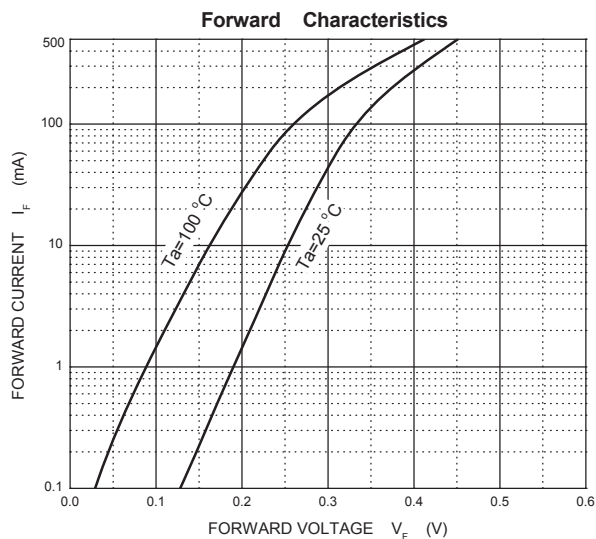
Electrical Ratings @Ta=25°C

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Forward voltage	V _F			0.36 0.54	V	I _F =100mA I _F =500mA
Reverse current	I _R			100	μA	V _R =20V



Plastic-Encapsulate Schottky Barrier Diode

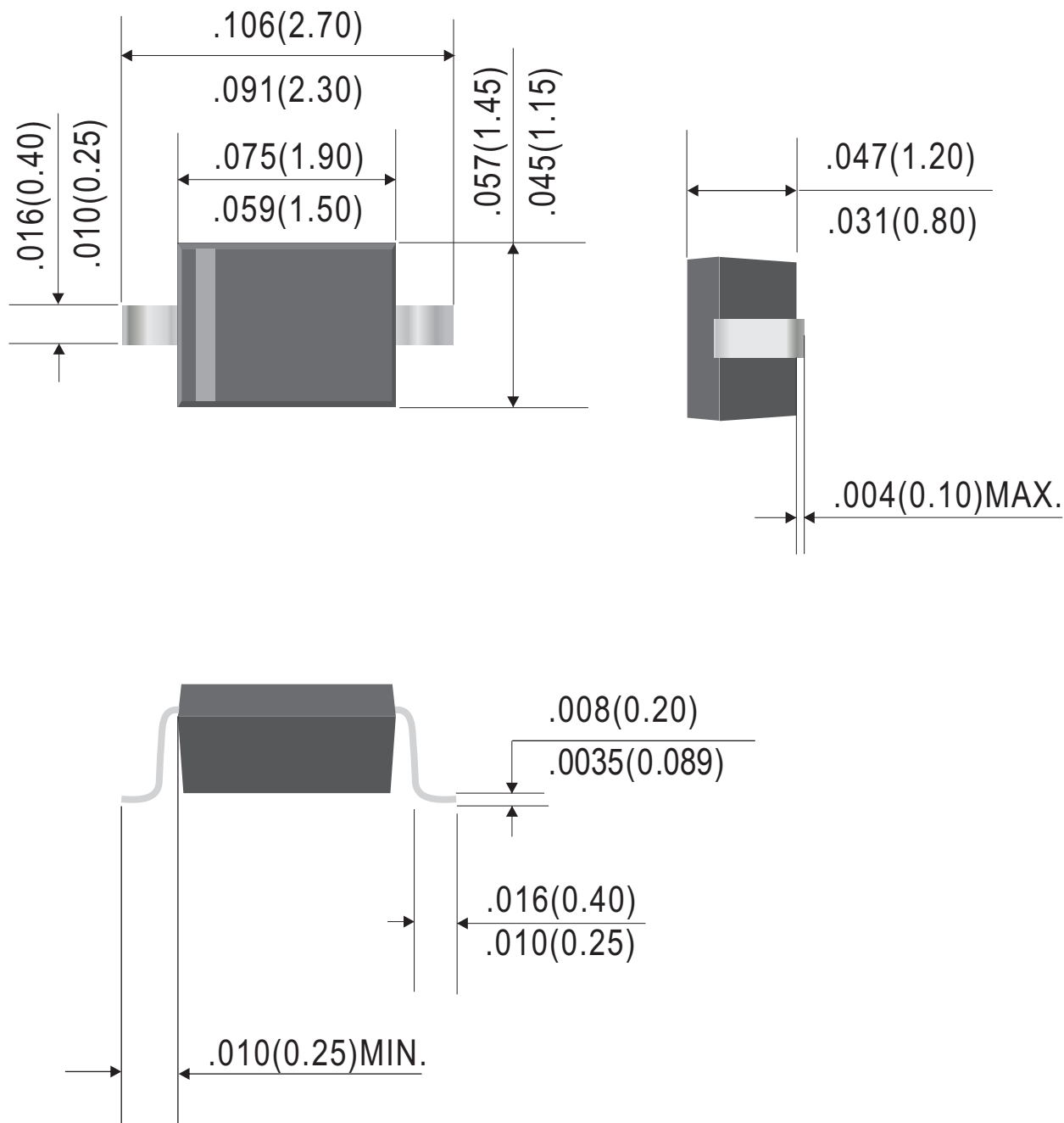
Typical Characteristics





Outline Drawing

SOD-323



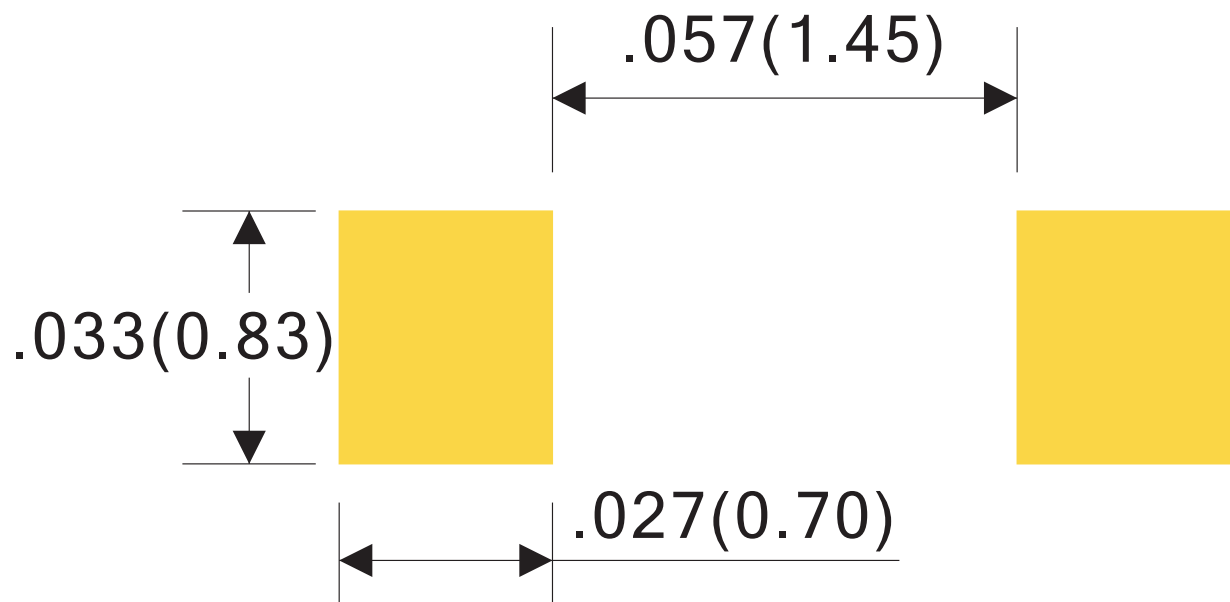
Dimensions in inches and (millimeters)

Rev.D-1



Suggested Soldering Pad Layout

SOD-323



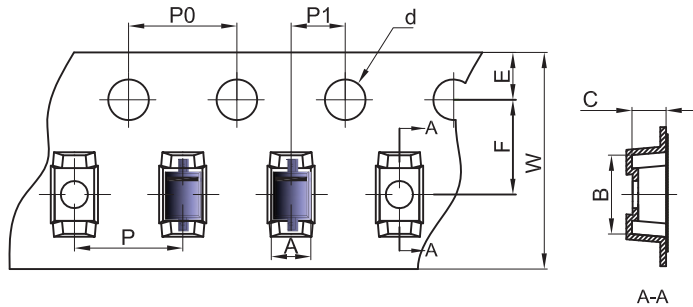
Dimensions in inches and (millimeters)

RevA



Plastic-Encapsulate Schottky Barrier Diode

SOD-323 Embossed Carrier Tape

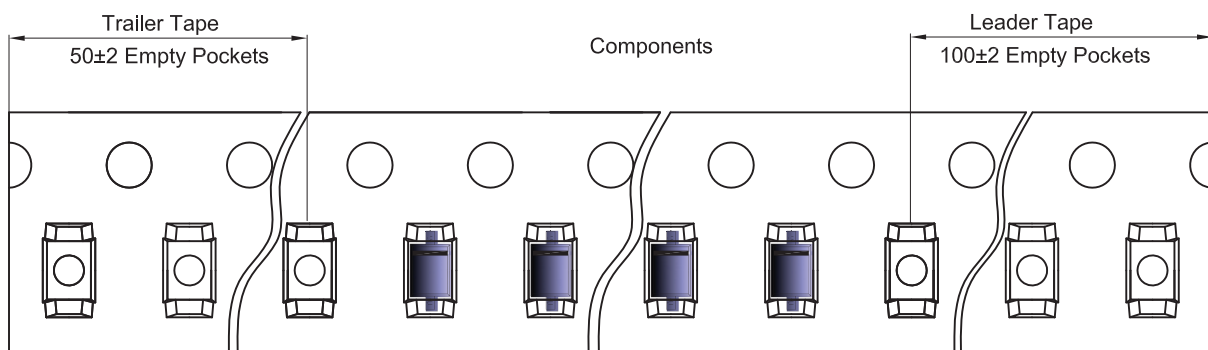


Packaging Description:

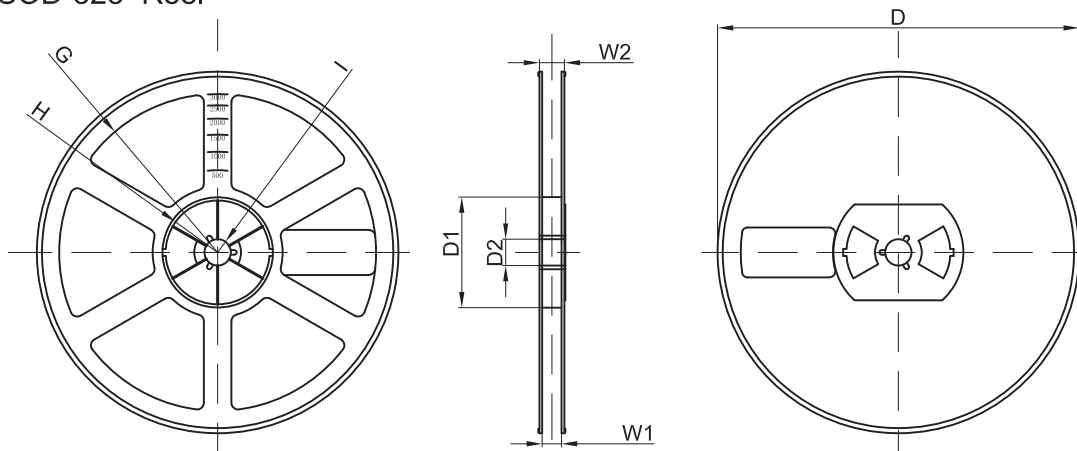
SOD-323 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts 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).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOD-323	1.48	3.3	1.25	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOD-323 Tape Leader and Trailer



SOD-323 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

**Ordering Information:**

Device PN	Marking ⁽⁴⁾	Packing
SCS551V-T ⁽¹⁾ H ⁽²⁾ -WS ⁽³⁾	D	Tape&Reel: 3 Kpcs/Reel

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

(2) Packing code suffix "G" for RoHS product ; Packing code Suffix "H" for halogen free product.
All materials and products supplied comply with the U.S. Toxic Substances Control Act statement, PBT Chemicals.

(3) Willas brand abbreviation, Label Type does not display

(4) There may be additional marking, which relates to the lot trace code information (data code and vendor code), the logo or the environmental category on the device

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◆Mounting and Storage Conditions

Willas has set the following requirements for the heat resistance of components.

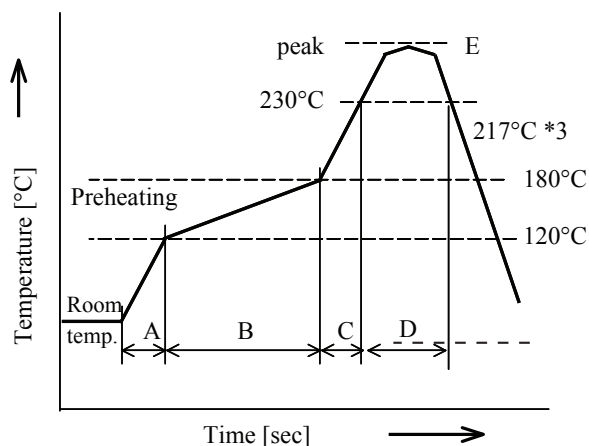
[Assumption] Moisture absorption prior to the reflow/flow soldering of components in dry pack.

With components in dry pack, reflow/flow soldering shall be completed within 168 hours after unpacking

(Storage environment:30°C 70%RH)

1.Reflow soldering

Temperature profile



Conditions

	Components size *1	☐ 28mm or less	☐ Over 28mm	Unit
A	Temp. rise gradient *2	1 - 3		°C/sec
B	Heating time	50 - 150		sec
	Heating temperature	120 - 180		°C
C	Temp. rise gradient *2	1 - 3		°C/sec
D	Time over 230°C	90	70	sec
	Peak temperature	260	250	°C
	Peak-temp. hold time	1-10	1-10	sec
Soldering		2		times

*1.Length or width, whichever is the greater outside dimension (length for a rectangular component)

*2.Temperatures and time for A through E in the table above shall be measured on the top surface of the components size.

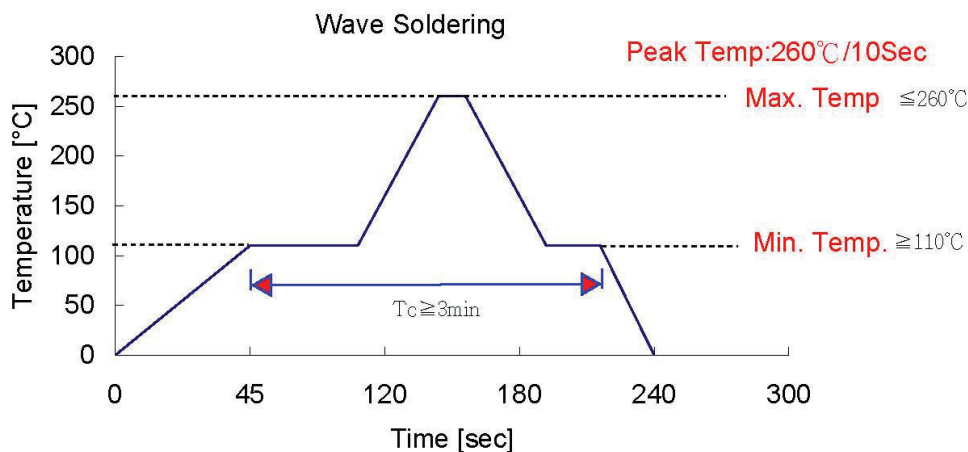
*3.Time over 217 °C be 90-150 seconds .

2.Flow (wave) soldering (solder dipping)

Peak temperature	260°C
Dipping time	10 sec
Soldering	1 time

SMD : Dipping the entire component

component for Insertion :Dipping to the lead joint of component



3. Hand soldering / touchup

Soldering iron tip temperature	380°C
Soldering time	3 sec



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Moisture Sensitivity Level (MSL)

If devices are not handled correctly, in accordance with their MSL conditions, then they will start to naturally absorb moisture. When heated rapidly during reflow soldering, the moisture turns to steam. If it cannot escape quickly enough the pressure built up may damage the component by cracking the package moulding, an effect known as “Popcorning”.

IPC/JEDEC J-STD-020C also defines device MSLs as part of the specification. MSL Level 1 is used for products supplied without moisture proof packaging. The products of Willas have an MSL Level of 1.

The Table below details the MSL Levels and conditions defined by J-STD-020C

MSL	Floor Life Time	Floor Conditions
1	Unlimited	$\leq 30^{\circ}\text{C}/ 85\% \text{ RH}$
2	1 Year	$\leq 30^{\circ}\text{C}/ 60\% \text{ RH}$
2a	4 Weeks	$\leq 30^{\circ}\text{C}/ 60\% \text{ RH}$
3	168 Hours	$\leq 30^{\circ}\text{C}/ 60\% \text{ RH}$
4	72 Hours	$\leq 30^{\circ}\text{C}/ 60\% \text{ RH}$
5	48 Hours	$\leq 30^{\circ}\text{C}/ 60\% \text{ RH}$
5a	24 Hours	$\leq 30^{\circ}\text{C}/ 60\% \text{ RH}$
6	Time on Label	$\leq 30^{\circ}\text{C}/ 60\% \text{ RH}$