

## **SUPER FAST RECOVERY DIODES**

## **Features**

- \* Low forward voltage drop
- \* Deal for automated placement
- \* Low power loss, high efficiency
- \* High surge current capability

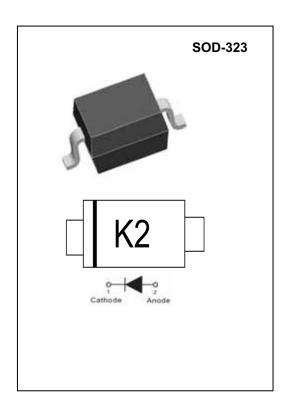
## **Mechanical Data**

\* Case: SOD-323 Package

\* Terminals: Solderable per MIL-STD-750, Method 2026

\* Halogen-free

\* Marking:K2



## Maximum Ratings and Thermal Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	200	V
Maximum Rms Voltage	V <sub>RMS</sub>	140	V
Maximum Dc Blocking Voltage	$V_{DC}$	200	V
Maximum Average Forward Current	I <sub>F(AV)</sub>	0.5	Α
Peak Forward Surge Current: 8.3 ms Single Half Sine- Wave Superimposed On Rated Load	I <sub>FSM</sub>	10	А
Typical Current Squared Time	I <sup>2</sup> t	0.415	A <sup>2</sup> s
Typical Junction Capacitance  Measured at 1 MHZ And Applied $V_R = 4 \text{ V}$	Сл	21	pF
Typical Thermal Resistance	R <sub>0JA</sub> (1) R <sub>0JC</sub> (1)	650 230	°C/W
Maximum Reverse Recovery Time (Note 1)	Trr	25	nS
Operating Junction Temperature Range	TJ	-55~150	°C
Storage Temperature Range	T <sub>STG</sub>	-55~150	°C

NOTES:1.Test Conditions: IF= 0.5A, IR= -1.0A, IRR= -0.25A.

# **Electrical Characteristics** (T<sub>A</sub> = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS	
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 0.1 A, T <sub>J</sub> = 25 °C	-	0.59	-		
		I <sub>F</sub> = 0.25 A, T <sub>J</sub> = 25 °C	-	0.7	-		
		I <sub>F</sub> = 0.5 A, T <sub>J</sub> = 25 °C	-	-	0.85	V	
		I <sub>F</sub> = 0.1 A, T <sub>J</sub> = 125 °C	-	0.48	-		
		I <sub>F</sub> = 0.25 A, T <sub>J</sub> = 125 °C	-	0.57	-		
		I <sub>F</sub> = 0.5 A, T <sub>J</sub> = 125 °C	ı	0.64	-		
Reverse Current	I <sub>R</sub> (3)	V <sub>R</sub> = 200 V, T <sub>J</sub> = 25 °C	-	1	2	uA	
		V <sub>R</sub> = 200 V, T <sub>J</sub> = 125 °C	-	80	_		

## NOTES:

- 1. Mounted on a FR4 PCB, single-sided copper, mini pad
- 2. Mounted on a FR4 PCB, single-sided copper, with 100 cm² copper pad area
- 3. Short duration pulse test used to minimize self-heating effect



## **RATING AND CHARACTERISTICS CURVES (05S200WS)**

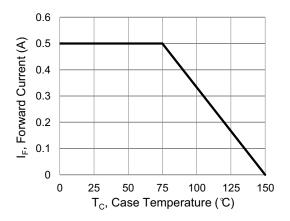


Fig.1 Forward Current Derating Curve

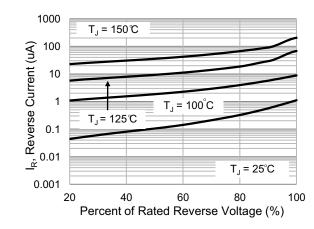


Fig.3 Typical Reverse Characteristics

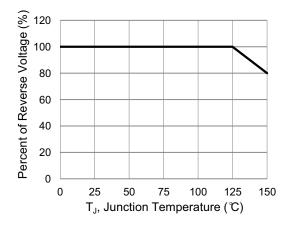


Fig.5 Operating Temperature Derating Curve

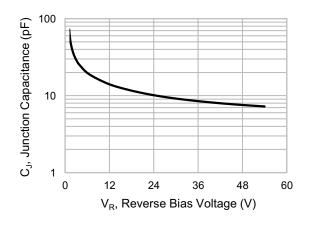


Fig.2 Typical Junction Capacitance

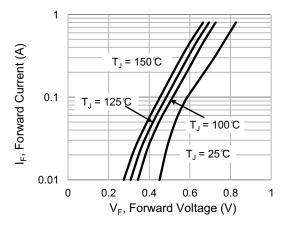
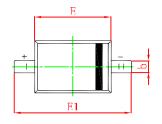


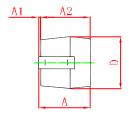
Fig.4 Typical Forward Characteristics



# SOD-323 PACKAGE OUTLINE Plastic surface mounted package

## SOD-323





	0.2	_	-	-	<u>I.1</u>
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Symbol	Min.(mm)	Max.(mm)				
Α		1.000				
<b>A</b> 1	0.000	0.100				
A2	0.800	0.900				
b	0.250	0.350				
С	0.080	0.150				
D	1.200	1.400				
E	1.600	1.800				
E1	2.500	2.700				
L	0.475REF					
L1	0.250	0.400				
θ	0°	8°				



# SOD-323 Tape and Reel

## SOD-323 Embossed Carrier Tape

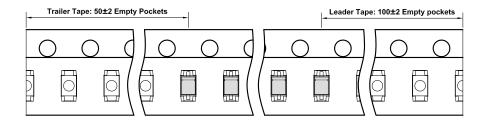
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## Packaging Description:

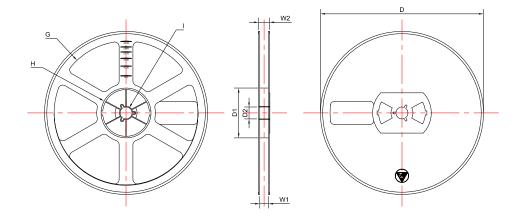
SOD-323 partsare shipped in tape. The carrier tape i made from a dissipative(carbon filled) polycarbonate resin. The cover tape is a multilayer film(heat Activat Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. The reels are blue in color and made of recyclable plastic.

	Dimensions are in millimeter									
Pkg Type	Α	В	С	d	E	F	P0	Р	P1	W
SOD-323	1.46	2.90	1.25	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00
(Tolerance)	± 0.05	± 0.05	± 0.05	± 0.1	± 0.1	± 0.1	± 0.1	± 0.1	± 0.1	+0.3/-0.1

## SOD-323 Tape Leader and Trailer



### SOD-323 Reel



Unit: mm

Reel Option	D	D1	D2	G	Н		W1	W2
7"Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30
Tolerance	±2	± 1	± 1	± 1	± 1	± 1	± 1	± 1

## **Packaging Quantity**

Reel	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)
3,000	7 inch	45,000	210*208*203	180,000	440*440*230



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