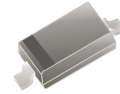


B05100WS-HF

RoHS Device
Halogen Free

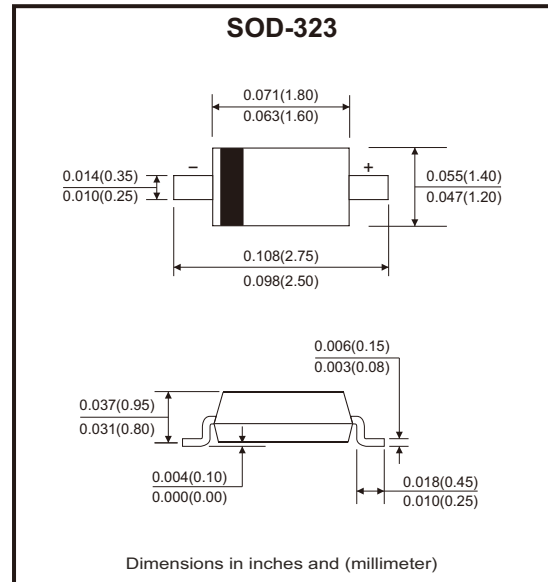


Features

- Small surface mounting type.
- Ideal for automated placement.
- Ultrafast reverse recovery time.
- Low power losses, high efficiency.
- Low forward voltage drop.
- High surge capability.

Mechanical data

- Case: SOD-323, molded plastic.
- Terminals: Matte Tin plated, solderable per MIL-STD-750, method 2026.
- Polarity: Indicated by cathode band.
- Mounting position: Any.



Circuit Diagram



Maximum Rating (at TA=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak repetitive reverse voltage	V_{RRM}	100	V
RMS reverse voltage	V_{RMS}	80	V
DC reverse voltage	V_{DC}	100	V
Average rectified output current	I_o	0.5	A
Non-repetitive peak forward surge current @ t = 8.3ms	I_{FSM}	5.5	A
Typical current squared time	I^2t	0.126	A ² s
Typical thermal resistance, junction to ambient (Note 1)	$R_{\theta JA}$	230	°C/W
Operating junction temperature range	T_J	-55 to +150	°C
Storage temperature range	T_{STG}	-55 to +150	°C

Notes: 1. Mounted on a FR4 PCB, single-sided copper, mini pad.

Electrical Characteristics (at TA=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse breakdown voltage	V_{BR}	$I_R = 5\mu A$	100			V
Reverse current (Note 1)	I_R	$V_R = 100V, T_J = 25^\circ C$			5	μA
		$V_R = 100V, T_J = 125^\circ C$		400		
Forward voltage	V_F	$I_F = 0.1A, T_J = 25^\circ C$		0.59		V
		$I_F = 0.25A, T_J = 25^\circ C$		0.7		
		$I_F = 0.5A, T_J = 25^\circ C$			0.85	
		$I_F = 0.1A, T_J = 125^\circ C$		0.48		
		$I_F = 0.25A, T_J = 125^\circ C$		0.57		
		$I_F = 0.5A, T_J = 125^\circ C$		0.64		
Total capacitance	C_J	$V_R = 4V, f = 1MHz$		21		pF

Notes: 1. Short duration pulse test used to minimize self-heating effect.

Typical Rating and Characteristic Curves (B05100WS-HF)

Fig.1 - Forward Current Derating Curve

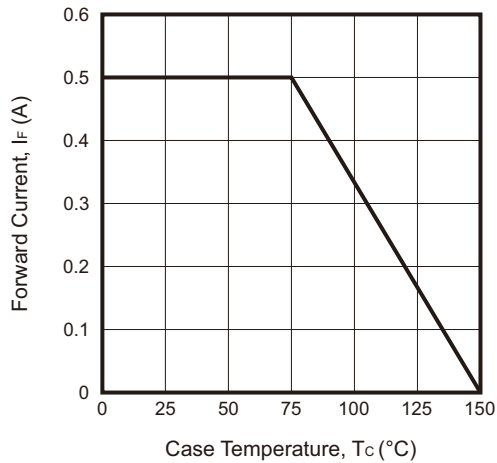


Fig.2 - Typical Junction Capacitance

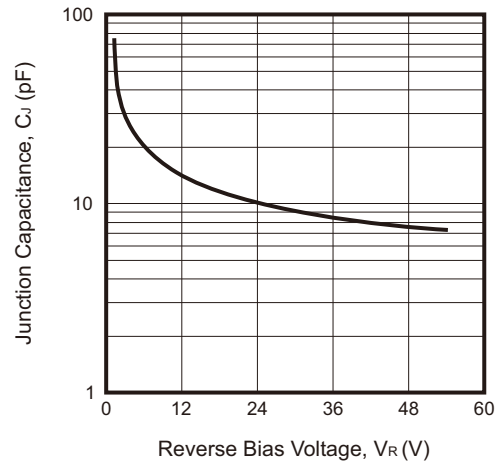


Fig.3 - Typical Reverse Characteristic

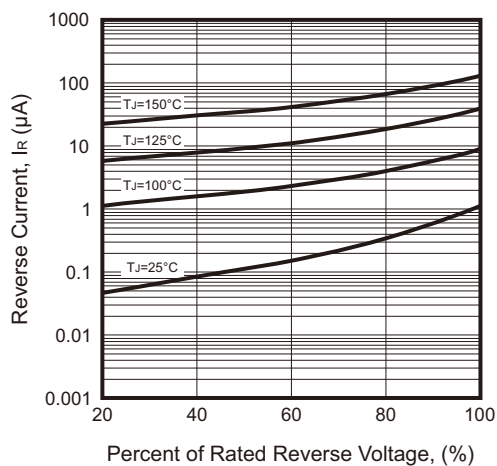


Fig.4 - Typical Forward Characteristic

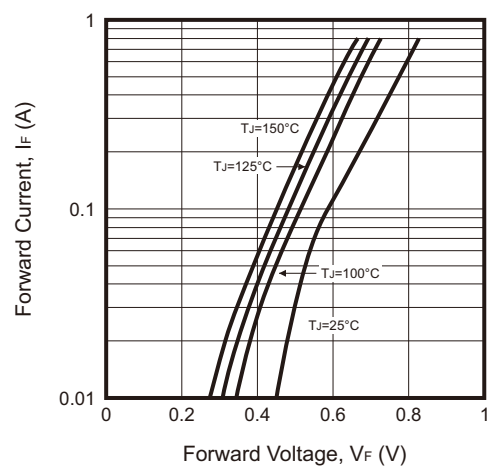
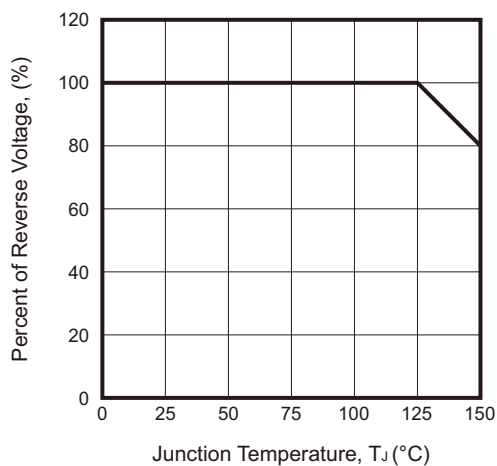
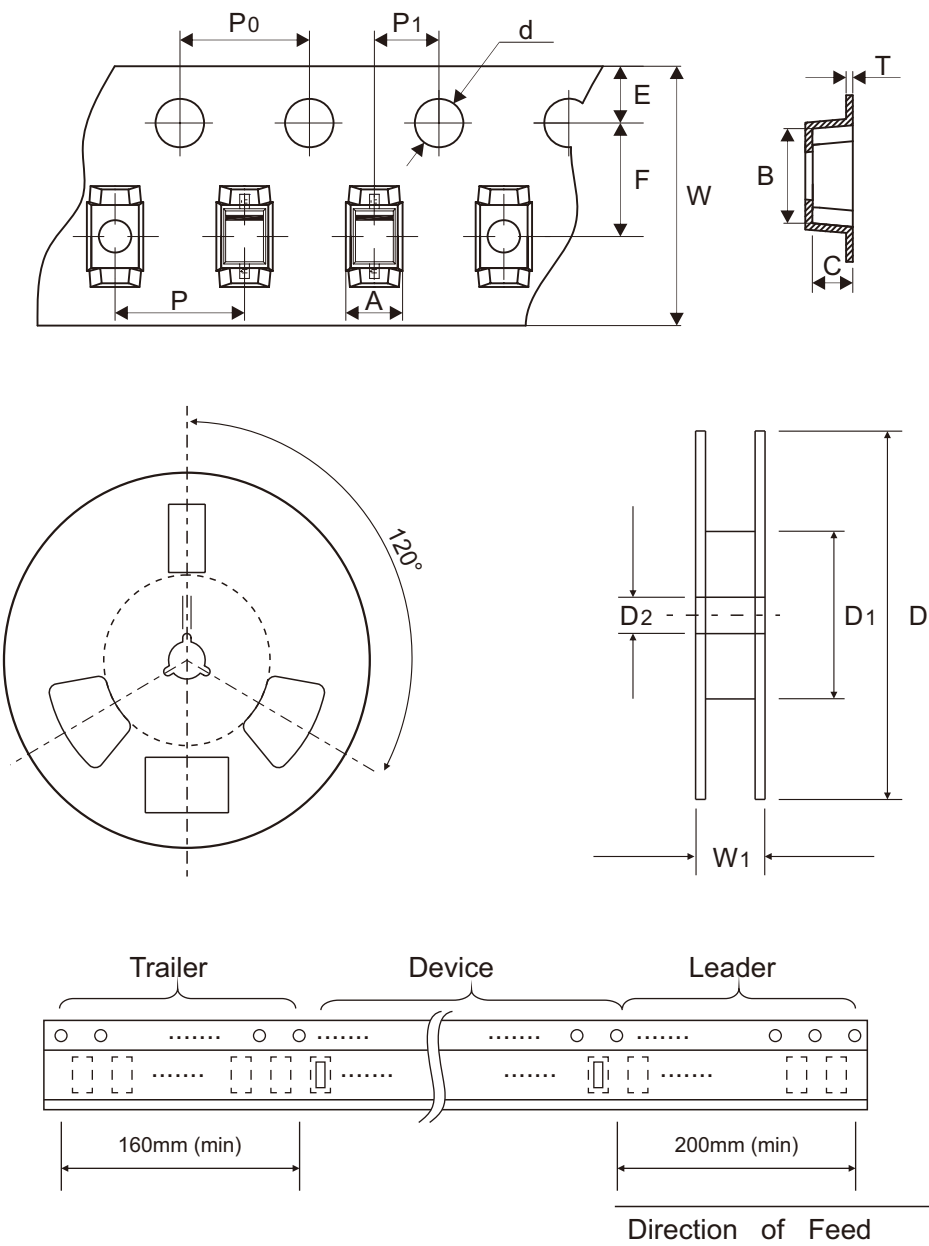


Fig.5 - Operating Temperature Derating Curve



Reel Taping Specification

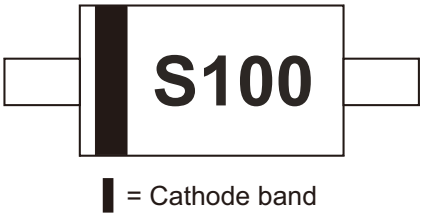


SOD-323	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	1.50 ± 0.10	2.90 ± 0.10	1.25 ± 0.10	1.50 + 0.10 - 0.00	178.00 ± 2.00	54.40 ± 1.00	13.00 ± 1.00
	(inch)	0.059 ± 0.004	0.114 ± 0.004	0.049 ± 0.004	0.059 + 0.004 - 0.000	7.008 ± 0.079	2.142 ± 0.039	0.512 ± 0.039

SOD-323	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	0.20 ± 0.05	8.00 + 0.30 - 0.10	12.30 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.008 ± 0.002	0.315 + 0.012 - 0.004	0.484 ± 0.039

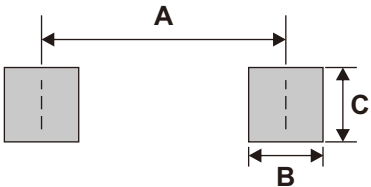
Marking Code

Part Number	Marking Code
B05100WS-HF	S100



Suggested P.C.B. PAD Layout

SIZE	SOD-323	
	(mm)	(inch)
A	2.30	0.091
B	0.70	0.028
C	0.70	0.028



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOD-323	3,000	7