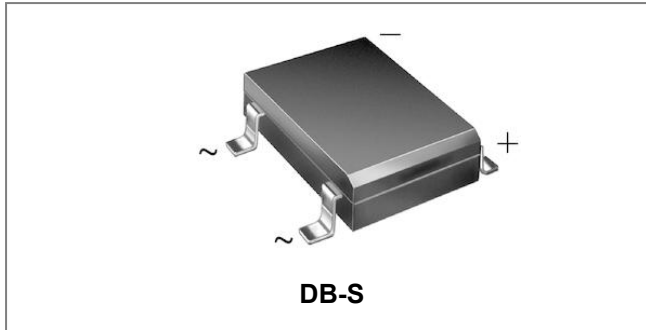




# THE DATASHEET OF DB153S



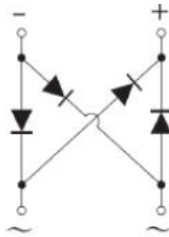
## DB151S THRU DB157S SINGLE-PHASE GLASS PASSIVATED SILICON BRIDGE RECTIFIERS



### Features

- Glass passivated die construction
- Low forward voltage drop
- High current capability
- High surge current capability
- Designed for surface mount application
- Plastic material-UL flammability 94V-0
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Circuit Diagram



### Mechanical Data

- Case: DB-S, molded plastic
- Terminals: plated leads solderable per MIL-STD-202, Method 208
- Polarity: as marked on case
- Mounting position: Any
- Lead Free: For RoHS / Lead Free Version,

### Maximum Ratings @ $T_A=25^{\circ}\text{C}$ unless otherwise specified

Single Phase half wave 60Hz, resistive or inductive load. For capacitive load current derate by 20%.

Characteristic	Symbol	DB 151S	DB 152S	DB 153S	DB 154S	DB 155S	DB 156S	DB 157S	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	50	100	200	400	600	800	1000	V
RMS Reverse Voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Average Forward Output Current (Note 1) @ $T_C = 100^{\circ}\text{C}$	$I_{F(AV)}$	1.5							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	55							A
$I^2t$ Rating for Fusing ( $t < 8.3\text{ms}$ )	$I^2t$	12.6							$\text{A}^2\text{s}$

**Electrical Characteristics @ $T_A=25^\circ\text{C}$  unless otherwise specified**

Characteristic	Symbol	DB 151S	DB 152S	DB 153S	DB 154S	DB 155S	DB 156S	DB 157S	Units
Maximum Forward Voltage Drop* per Bridge Element @ $I_F=1.5\text{A}$ , $T_J=25^\circ\text{C}$	$V_F$	1.0							V
Peak Reverse Current* At Rated DC Blocking Voltage* @ $T_A=25^\circ\text{C}$ @ $T_A=125^\circ\text{C}$	$I_R$	5 100							$\mu\text{A}$
Typical Junction Capacitance (Note 2)	$C_J$	20							pF

\* Pulse width < 300  $\mu\text{s}$ , duty cycle < 2%

**Thermal-Mechanical Specifications @ $T_A=25^\circ\text{C}$  unless otherwise specified**

Characteristic	Symbol	DB 151S	DB 152S	DB 153S	DB 154S	DB 155S	DB 156S	DB 157S	Units
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	40							$^\circ\text{C}/\text{W}$
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	15							$^\circ\text{C}/\text{W}$
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to + 150							$^\circ\text{C}$

Note: 1. Mounted on glass epoxy PC board with 1.3mm<sup>2</sup> solder pad.  
 2. Measured at 1.0 MHz and applied reverse voltage of 4.0 VDC

**Ratings and Characteristics Curves**

Fig. 1 Output Current Derating Curve

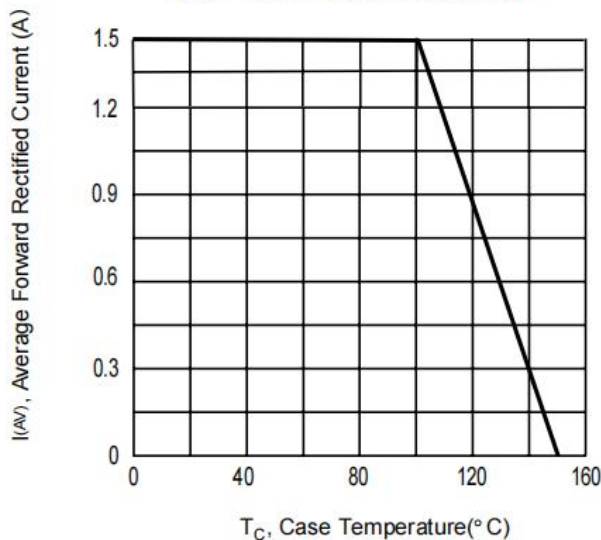


Fig. 2 Typical Forward Characteristics

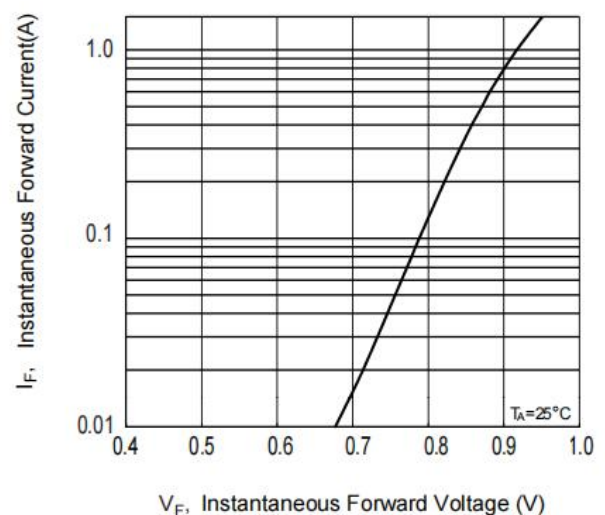


Fig.3 Maximum Peak Forward Surge Current

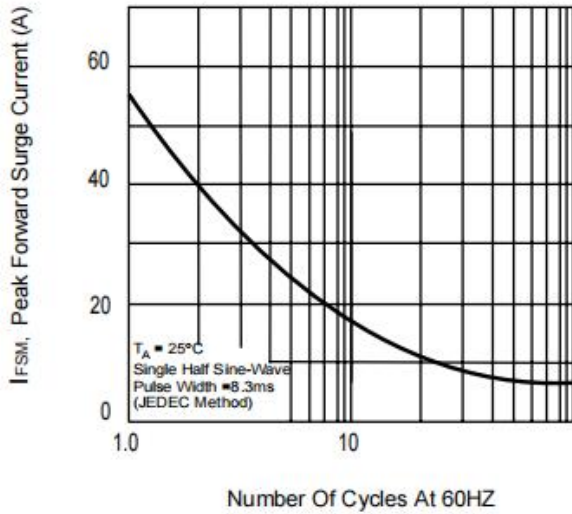


Fig.4 Typical Reverse Characteristics

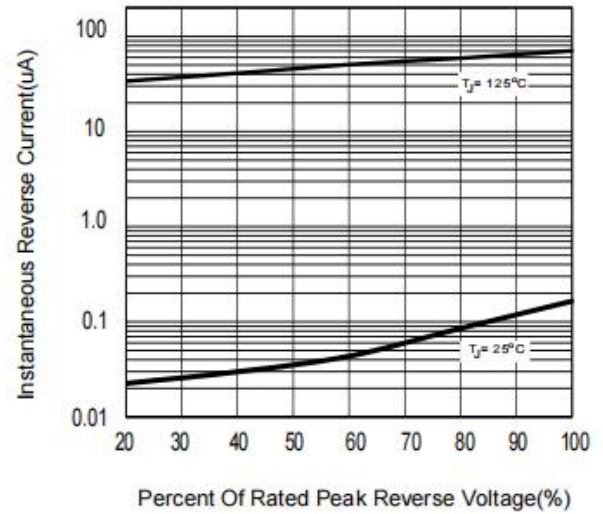
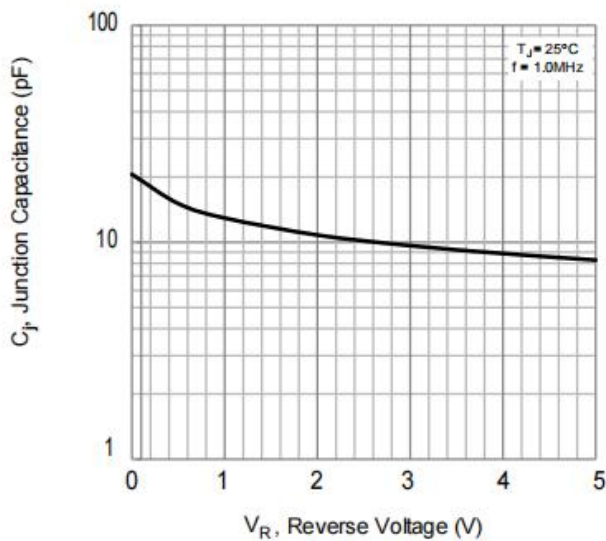
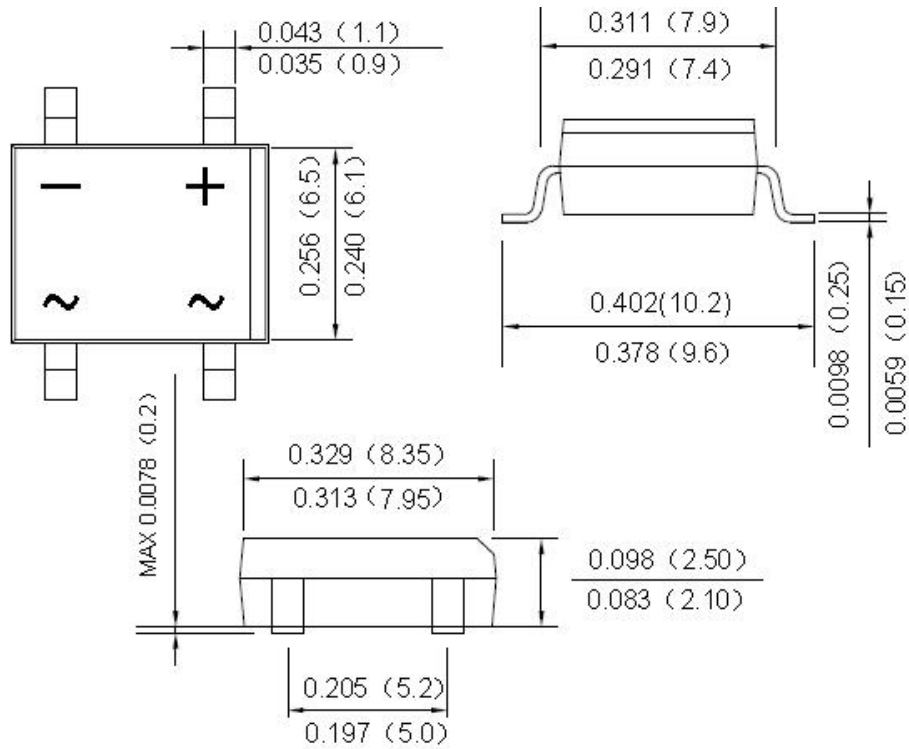


Fig. 5 Typical Junction Capacitance



**Mechanical Dimensions DB-S(Inches/Millimeters)**

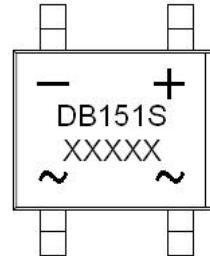


## Ordering Information

Device	Package	Plating	Shipping
DB151S THRU DB157S	DB-S (Pb-Free)	Pure Sn	1500pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

## Marking Diagram

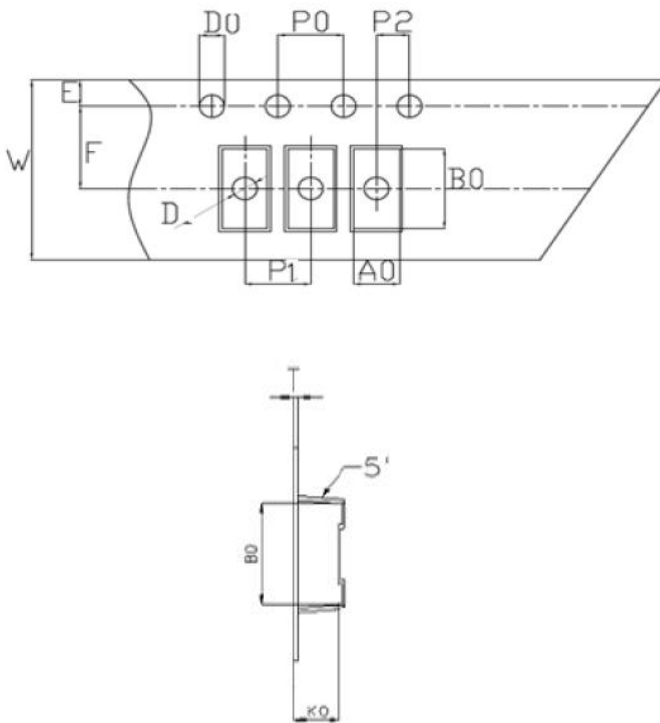


Where XXXXX is YYWWL

DB151S = Type Number  
YY = Year  
WW = Week  
L = Lot Number

**Cautions:** Molding resin  
Epoxy resin UL:94V-0

## Carrier Tape Specification DB-S





SYMBOL	Millimeters	
	Min.	Max.
A0	8.65	8.95
B0	10.31	10.51
D0	1.50	1.60
D1	1.40	1.60
P0	3.90	4.10
P1	11.90	12.10
P2	1.90	2.10
E	1.65	1.85
K0	3.21	3.41
F	7.40	7.60
W	15.70	16.30
T	0.30	0.40
10P0	39.80	40.20

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