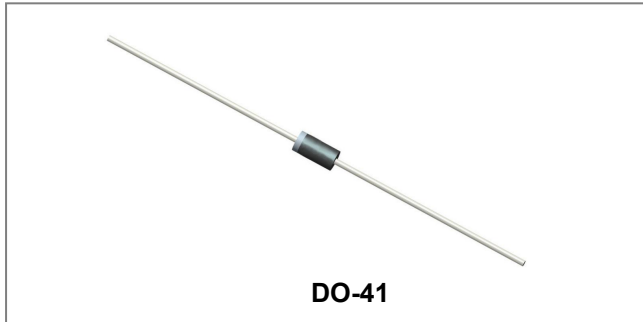


## BY133 1.0A SILICON RECTIFIER



### Features

- Diffused Junction
- Low Forward Voltage Drop
- High Current Capability
- High Reliability
- High Surge Current Capability
- Terminals finish: 100% Pure Tin
- 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: molded plastic
- Terminals: Plated leads, solderable per MIL-STD-202, Method 208
- Polarity: Cathode band
- Mounting Position: Any
- Weight: 0.34 grams (approx)

### Maximum Ratings and Electrical Characteristics @T<sub>A</sub>=25°C unless otherwise specified

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

Type Number	Symbol	BY133	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	1300	V
RMS Reverse Voltage	V <sub>RMS</sub>	910	V
Average forward rectified output current @T <sub>A</sub> = 75°C	I <sub>O</sub>	1.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	30	A
Forward Voltage @I <sub>F</sub> = 1.0A	V <sub>FM</sub>	1.0	V
Peak Reverse Current @T <sub>A</sub> = 25°C At Rated DC Blocking Voltage @T <sub>A</sub> = 100°C	I <sub>RM</sub>	5.0 50	μA
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	15	pF
Typical Thermal Resistance Junction to Ambient (Note 1)	R <sub>θJA</sub>	50	°C/W
Operating Junction Temperature Range	T <sub>J</sub>	-65 to +125	°C
Storage Temperature Range	T <sub>STG</sub>	-65 to +150	°C

Note: 1. Leads maintained at ambient temperature at a distance of 9.5mm from the case  
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

**Ratings and Characteristics Curves**

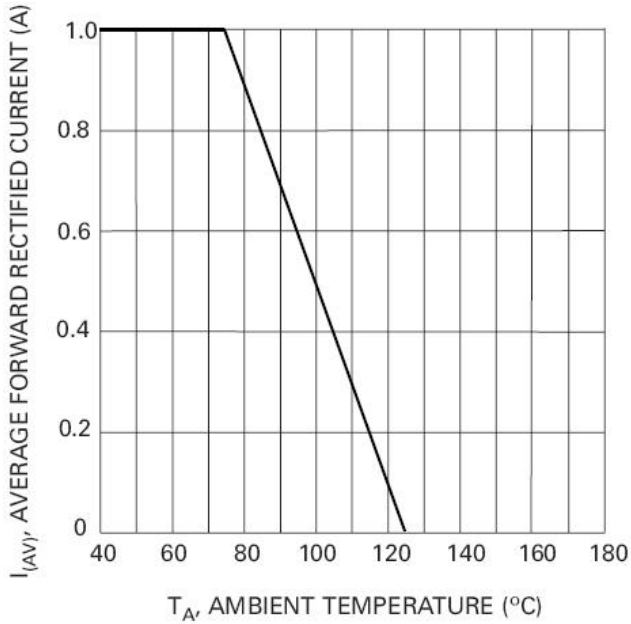


Fig. 1 Forward Current Derating Curve

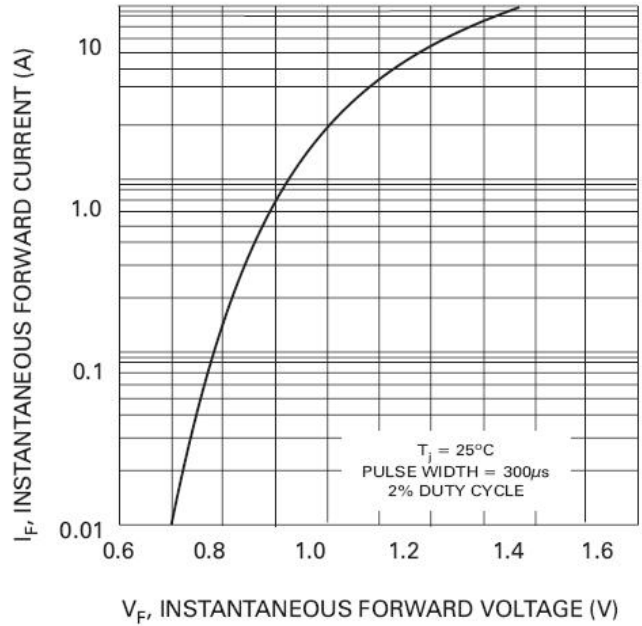


Fig. 2 Typical Forward Characteristics

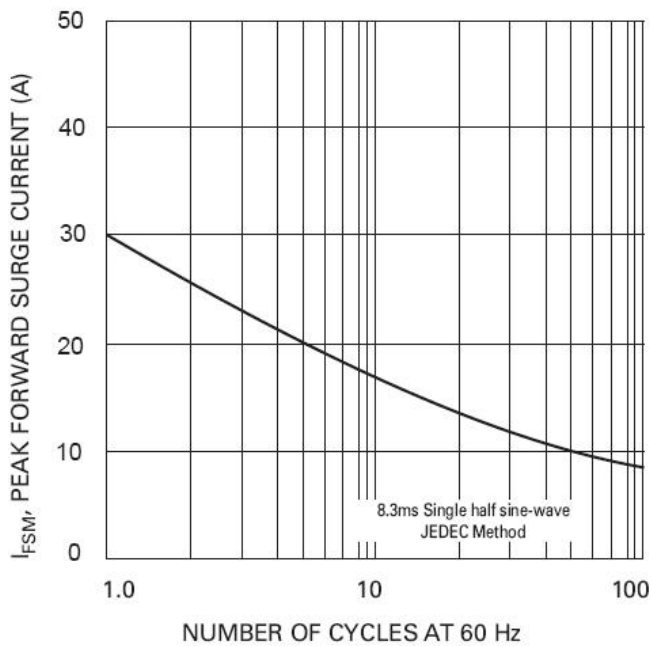


Fig. 3 Max Non-Repetitive Peak Fwd Surge Current

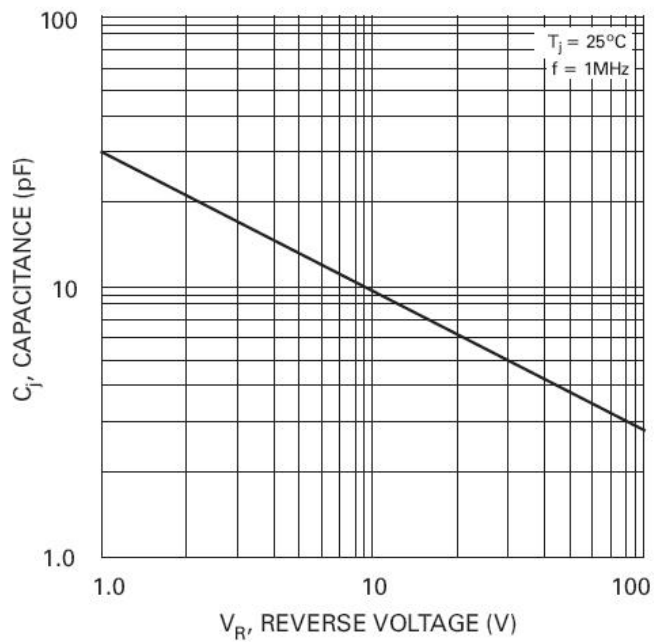
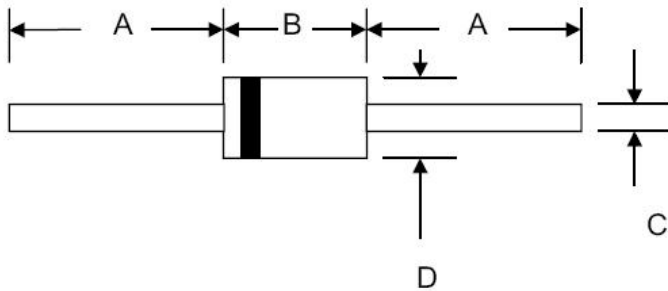


Fig. 4 Typical Junction Capacitance

### Mechanical Dimensions DO-41



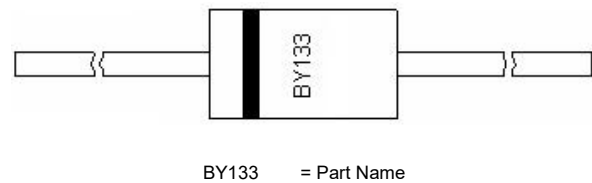
SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	25.4	-	1.000	-
B	4.06	5.21	0.160	0.205
C	0.71	0.864	0.028	0.034
D	2.00	2.72	0.079	0.107

### Ordering Information

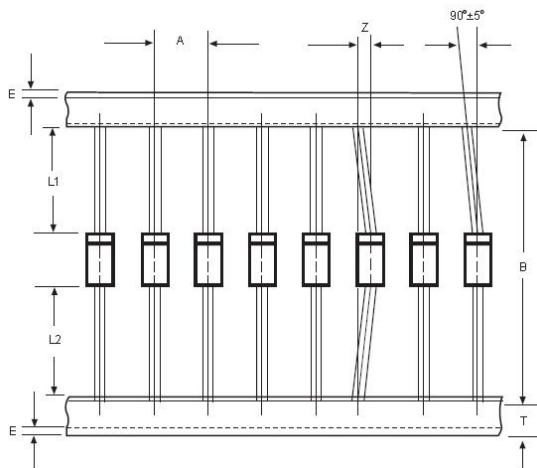
Device	Package	Shipping
BY133	DO-41 (Pb-Free)	5000pcs / reel
BY133TR	DO-41 (Pb-Free)	5000pcs / reel
BY133TA	DO-41 (Pb-Free)	5000pcs / tape

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

### Marking Diagram



### Carrier Tape Specification DO-41



SYMBOL	Millimeters	
	Min.	Max.
A	4.50	5.50
B	50.9	53.9
Z	-	1.20
T	5.60	6.40
E	-	0.80
IL1-L2I	-	1.0

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