

Part Specifications:

Configuration	Single
Type	Voltage Regulator
Package Type	Case T-18
Zener Voltage	6.8V
Zener Test Current	175mA
Voltage Tolerance	1%
Power Dissipation	1470mW
Operating Temperature Classification	Military
Rev Curr	10uA
Mounting	Through Hole
Pin Count	2
Operating Temp Range	-65C to 150C

1N5333B Series

Preferred Device

5 Watt Surmetic™ 40 Zener Voltage Regulators

This is a complete series of 5 Watt Zener diodes with tight limits and better operating characteristics that reflect the superior capabilities of silicon-oxide passivated junctions. All this in an axial lead, transfer-molded plastic package that offers protection in all common environmental conditions.

Features

- Zener Voltage Range – 3.3 V to 200 V
- ESD Rating of Class 3 (>16 kV) per Human Body Model
- Surge Rating of up to 180 W @ 8.3 ms
- Maximum Limits Guaranteed on up to Six Electrical Parameters
- These devices are manufactured with a Pb-Free external lead finish only*

Mechanical Characteristics

CASE: Void free, transfer-molded, thermosetting plastic

FINISH: All external surfaces are corrosion resistant and leads are readily solderable

MAXIMUM LEAD TEMPERATURE FOR SOLDERING PURPOSES: 230°C, 1/16 in. from the case for 10 seconds

POLARITY: Cathode indicated by polarity band

MOUNTING POSITION: Any

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Max. Steady State Power Dissipation @ $T_L = 75^\circ\text{C}$, Lead Length = 3/8 in Derate above 75°C	P_D	5 40	W mW/°C
Operating and Storage Temperature Range	T_J, T_{stg}	-65 to +200	°C

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.



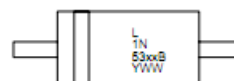
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AXIAL LEAD
CASE 17
PLASTIC

MARKING DIAGRAM



L = Assembly Location
1N53xxB = Device Code
(See Table Next Page)
Y = Year
WW = Work Week

ORDERING INFORMATION

Device	Package	Shipping†
1N53xxB	Axial Lead	1000 Units/Box
1N53xxBRL	Axial Lead	4000/Tape & Reel
1N53xxBTA*	Axial Lead	2000/Ammo Pack

*1N5361B Not Available in 2000/Ammo Pack

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

Preferred devices are recommended choices for future use and best overall value.

*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

1N5333B Series

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted, $V_F = 1.2\text{ V Max @ } I_F = 1.0\text{ A}$ for all types)

Symbol	Parameter
V_Z	Reverse Zener Voltage @ I_{ZT}
I_{ZT}	Reverse Current
Z_{ZT}	Maximum Zener Impedance @ I_{ZT}
I_{ZK}	Reverse Current
Z_{ZK}	Maximum Zener Impedance @ I_{ZK}
I_R	Reverse Leakage Current @ V_R
V_R	Breakdown Voltage
I_F	Forward Current
V_F	Forward Voltage @ I_F
I_R	Maximum Surge Current @ $T_A = 25^\circ\text{C}$
ΔV_Z	Reverse Zener Voltage Change
I_{ZM}	Maximum DC Zener Current

