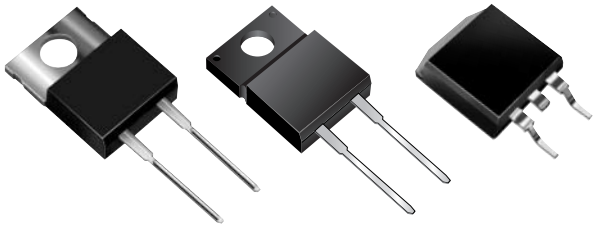
New Product

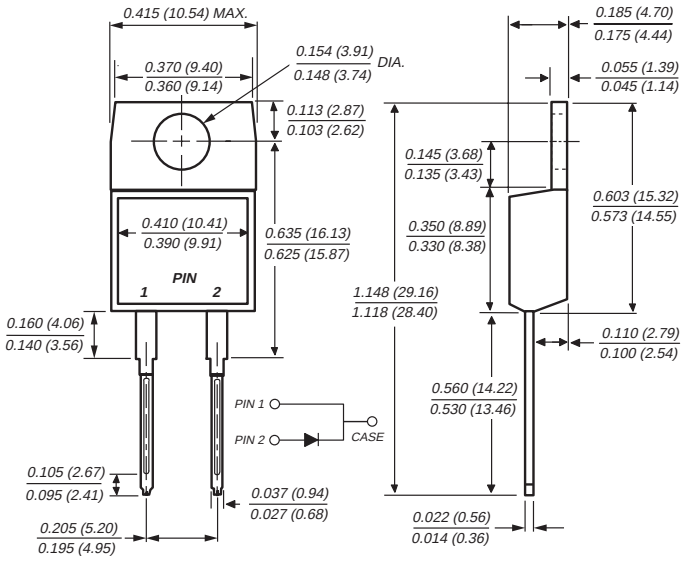
Vishay Semiconductors
formerly General Semiconductor

Fast Switching Plastic Rectifier

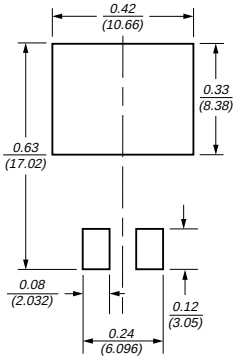
Reverse Voltage 200 to 800V
Forward Current 8.0A



TO-220AC (BY229 Series)

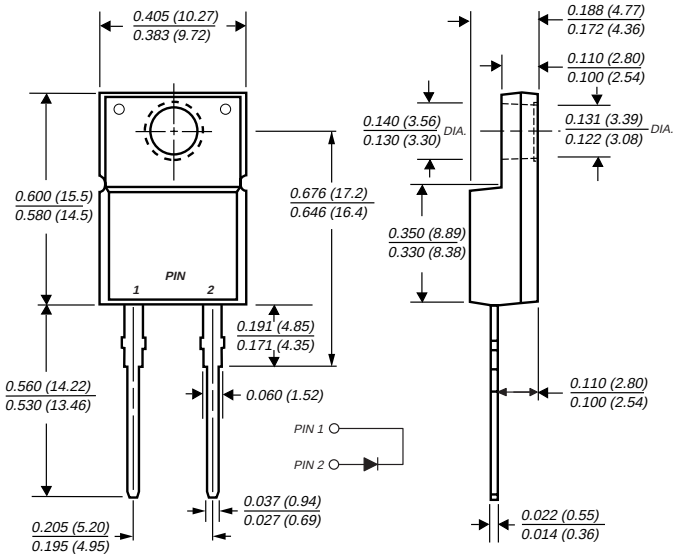


Mounting Pad Layout TO-263AB

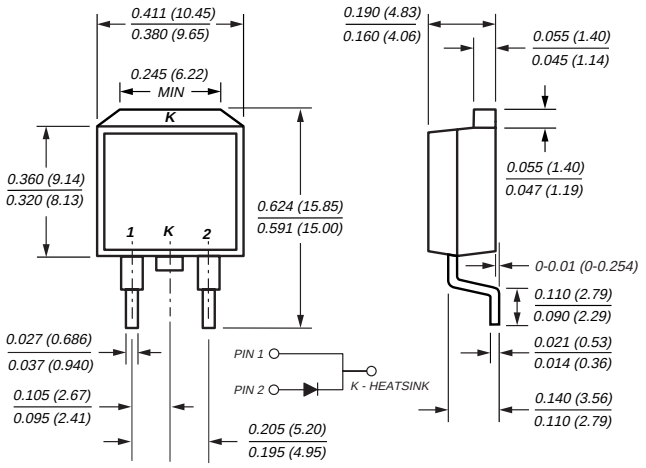


Dimensions in inches and (millimeters)

ITO-220AC (BY229X Series)



TO-263AB (BY229B Series)



Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Glass passivated chip junction
- Low leakage, high voltage
- High surge current capability
- Superfast recovery time, for high efficiency
- High temperature soldering guaranteed: 250°C, 0.25" (6.35mm) from case for 10 seconds

Mechanical Data

Case: JEDEC TO-220AC, ITO-220AC and TO-263AB plastic body over passivated chip

Terminals: Plated leads, solderable per MIL-STD-750, Method 2026

Polarity: As marked

Mounting Position: Any

Weight: 0.064 oz., 1.81 g

Mounting Torque: 10 in-lbs maximum

Maximum Ratings (T_C = 25°C unless otherwise noted)

Parameter	Symbol	BY229-200	BY229-400	BY229-600	BY229-800	Unit
Maximum recurrent peak reverse voltage	V_{RRM}	200	400	600	800	V
Maximum RMS voltage	V_{RMS}	140	280	420	560	V
Maximum DC blocking voltage	V_{DC}	200	400	600	800	V
Maximum average forward rectified current at T_C=100°C	$I_{F(AV)}$	8.0				A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	100				A
Maximum slope of reverse recovery current I_F=2.0A, V_R=30V, di/dt=20A/µs	dir/dt	60				A/µs
Operating junction and storage temperature range	T_J, T_{STG}	–40 to +150				°C
RMS Isolation voltage from terminals to heatsink with t = 1 second, RH ≤ 30% (BY229X only)	V_{ISOL}	4500 (Note 1) 3500 (Note 2) 1500 (Note 3)				V

Electrical Characteristics (T_C = 25°C unless otherwise noted)

Parameter	Symbol	BY229-200	BY229-400	BY229-600	BY229-800	Unit
Maximum instantaneous forward voltage at 20A	V_F	1.85				V
Maximum DC reverse current at rated DC blocking voltage at T_J = 25°C T_J = 125°C	I_R	10 300				µA
Maximum reverse recovery time at I_F=1.0A, V_R=30V, di/dt=50A/µs, I_{rr}=10% I_{RM}	t_{rr}	145				ns
Maximum recovered stored charge (Note 2) I_F=2.0A, V_R=30V, di/dt=20A/µs	Q_{rr}	700				nC

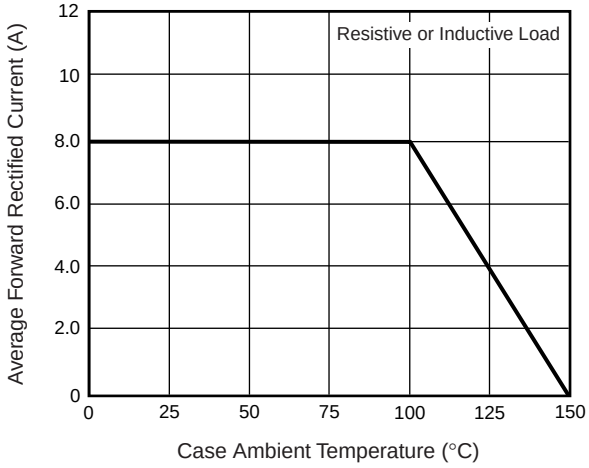
Thermal Characteristics (T_C = 25°C unless otherwise noted)

Parameter	Symbol	BY229	BY229X	BY229B	Unit
Typical thermal resistance, junction to case	$R_{\Theta JC}$	2.0	4.8	2.0	°C/W
Typical thermal resistance, junction to air	$R_{\Theta JA}$	20	—	20	°C/W

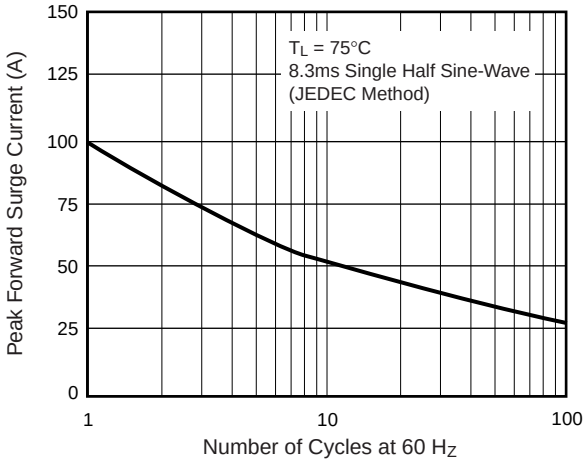
Notes:
(1) Clip mounting, where lead does not overlap heatsink with 0.110” offset.
(2) Clip mounting, where leads do overlap heatsink.
(3) Screw mounting with 4-40 screw, where washer diameter is ≤ 4.9 mm (0.19”).

Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

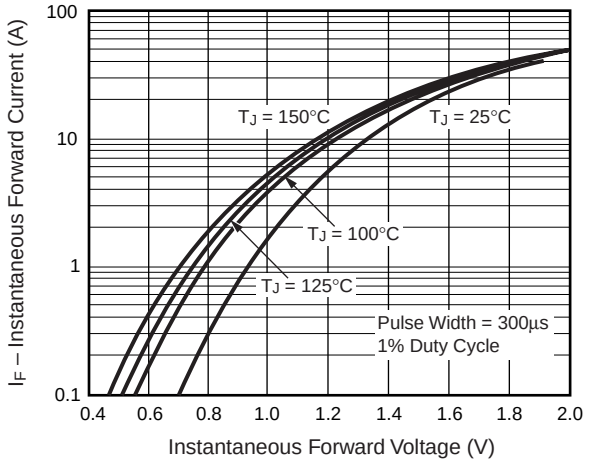
Forward Current Derating Curve



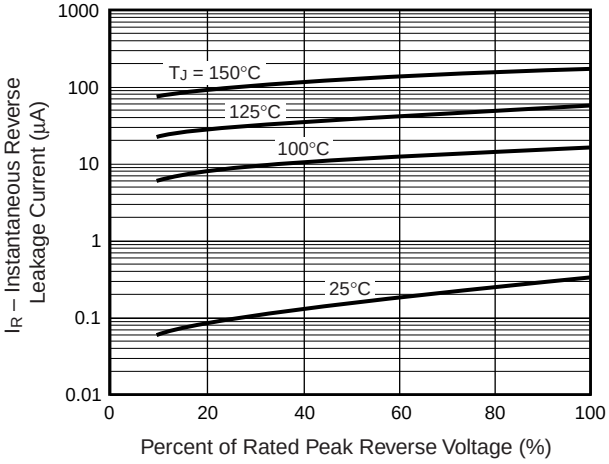
Maximum Non-Repetitive Peak Forward Surge Current



Typical Instantaneous Forward Characteristics



Typical Reverse Leakage Characteristics



Typical Junction Capacitance