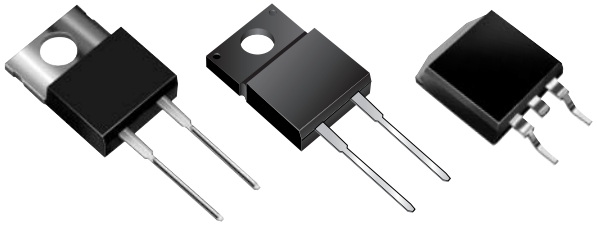
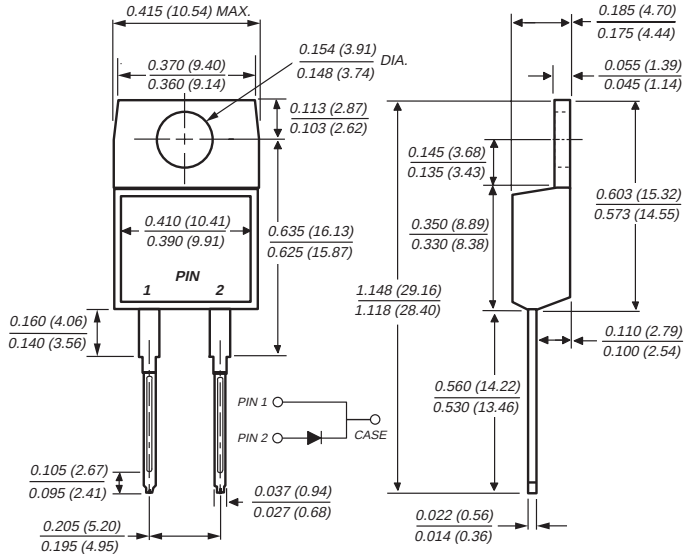
Ultrafast Rectifiers

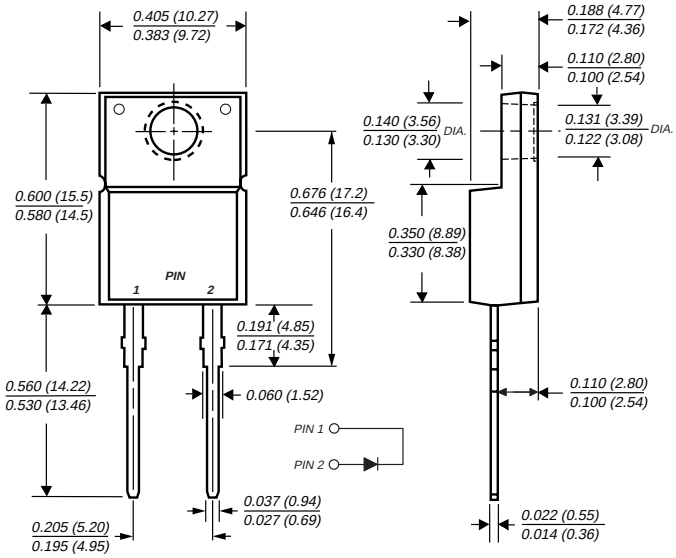
Reverse Voltage 50 to 200V
Forward Current 8.0A
Reverse Recovery Time 25ns



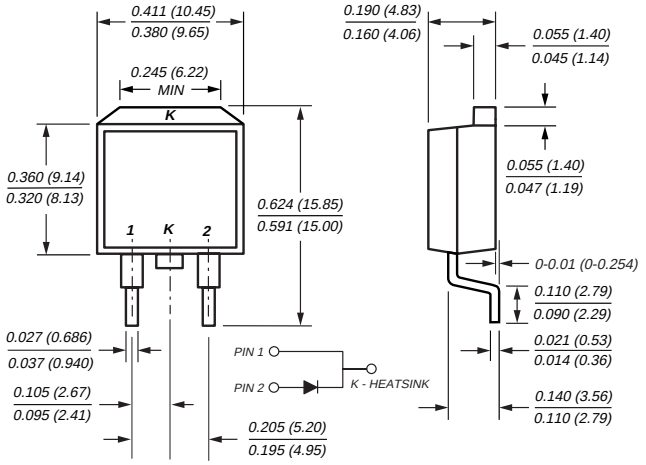
TO-220AC (BYW29 Series)



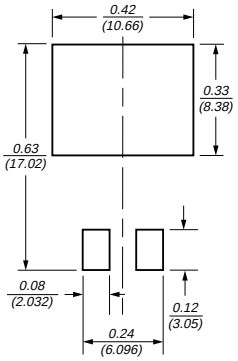
ITO-220AC (BYWF29 Series)



TO-263AB (BYWB29 Series)



Mounting Pad Layout TO-263AB



Dimensions in inches and (millimeters)

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated chip junction
- Low power loss
- Low leakage current
- High surge current capability
- Superfast recovery time for high efficiency

Mechanical Data

Case: JEDEC TO-220AC, ITO-220AC & TO-263AB molded plastic body

Terminals: Plated leads, solderable per MIL-STD-750, Method 2026
High temperature soldering in accordance with CECC 802 / Reflow guaranteed

Polarity: As marked

Mounting Position: Any

Mounting Torque: 10 in-lbs maximum

Weight: approx. 0.05 oz., 1.35 g

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

Parameter	Symbol	BYW29-50	BYW29-100	BYW29-150	BYW29-200	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	V
Maximum RMS voltage	V_{RMS}	35	70	105	140	V
Maximum DC blocking voltage	V_{DC}	50	100	150	200	V
Maximum average forward rectified current at T_C = 105°C	$I_{F(AV)}$	8.0				A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg	I_{FSM}	100				A
Operating and storage temperature range	T_J, T_{STG}	–65 to +150				°C
RMS Isolation voltage (BYWF type only) from terminals to heatsink with t = 1.0 second, RH ≤ 30%	V_{ISOL}	4500 (1) 3500 (2) 1500 (3)				V

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

Parameter	Symbol	BYW29-50	BYW29-100	BYW29-150	BYW29-200	Unit
Maximum instantaneous forward voltage at: (4) I_F = 20A, T_J = 25°C I_F = 8.0A, T_J =150°C	V_F	1.3 0.8				V
Maximum DC reverse current at rated DC blocking voltage T_C=25°C T_C=100°C	I_R	10 500				µA
Maximum reverse recovery time at I_F = 1A, V_R = 30V, di/dt = 100A/µs, I_{rr} = 10% I_{RM}	t_{rr}	25				ns
Typical junction capacitance at 4V, 1MHz	C_J	45				pF

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

Parameter	Symbol	BYW	BYWF	BYWB	Unit
Typical thermal resistance from junction to case per leg	$R_{\Theta JC}$	2.5	5.5	2.5	°C/W

Notes:
(1) Clip mounting (on case), where lead does not overlap heatsink with 0.110" offset
(2) Clip mounting (on case), where leads do overlap heatsink
(3) Screw mounting with 4-40 screw, where washer diameter is ≤ 4.9mm (0.19")
(4) Pulse test: 300µs pulse width, 1% duty cycle

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

Fig. 1 – Maximum Forward Current Derating Curve

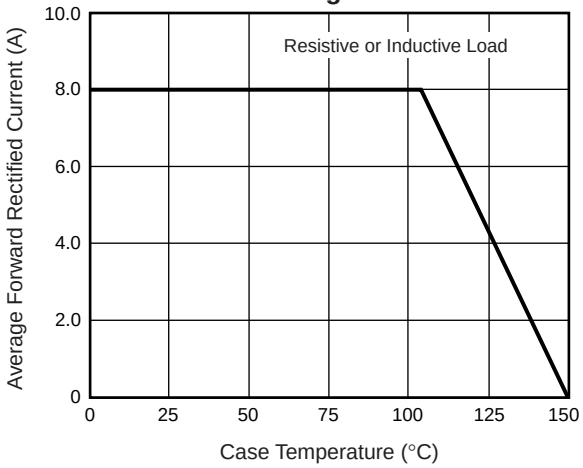


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

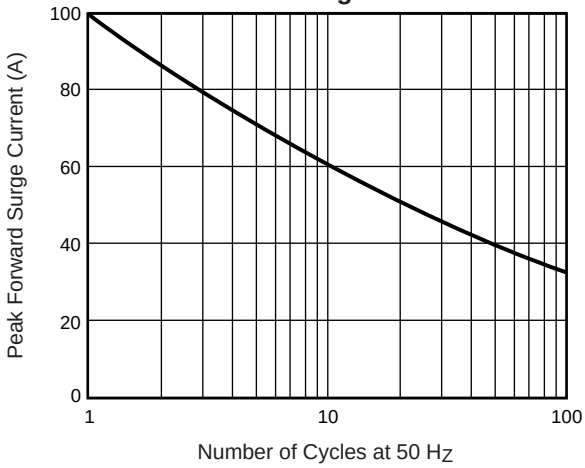


Fig. 3 – Typical Instantaneous Forward Characteristics

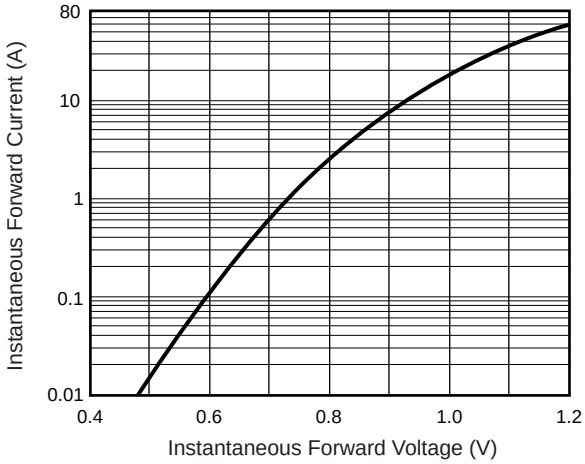


Fig. 4 – Typical Reverse Leakage Characteristics

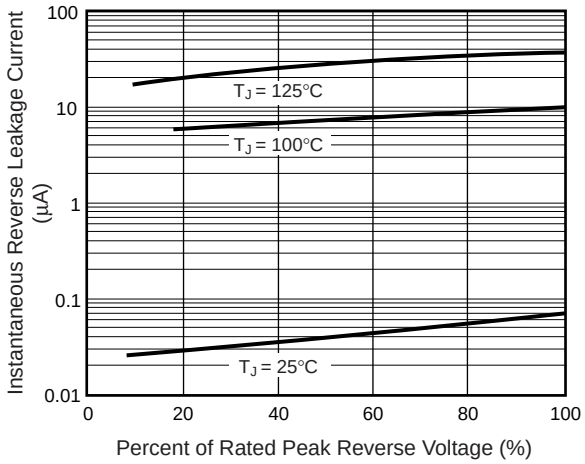
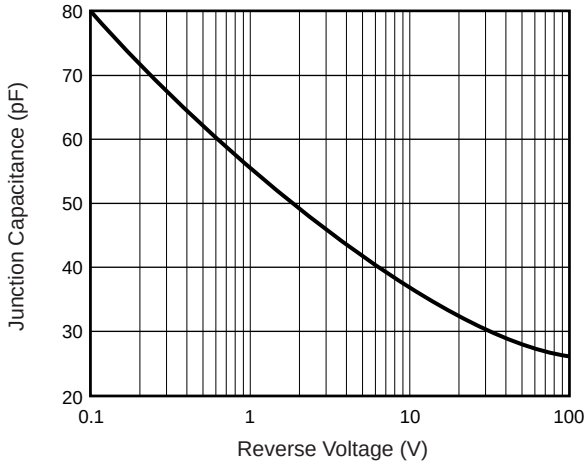


Fig. 5 – Typical Junction Capacitance



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