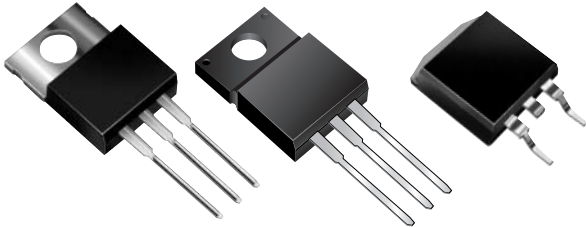


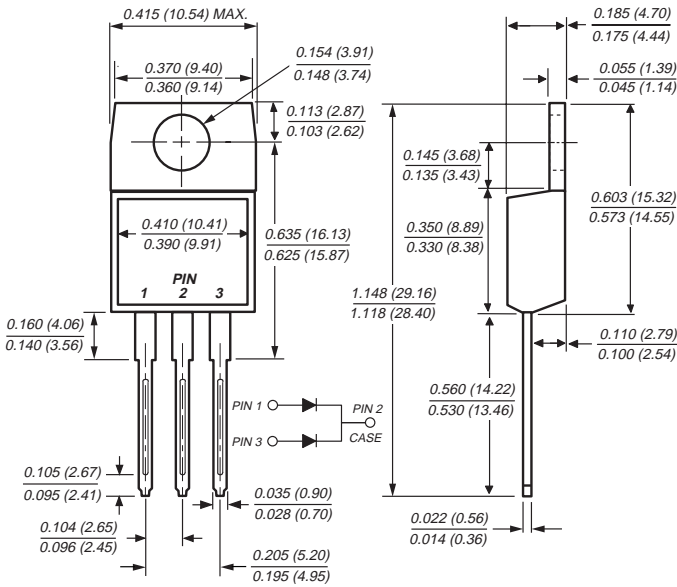


Dual Ultrafast Soft Recovery Rectifier

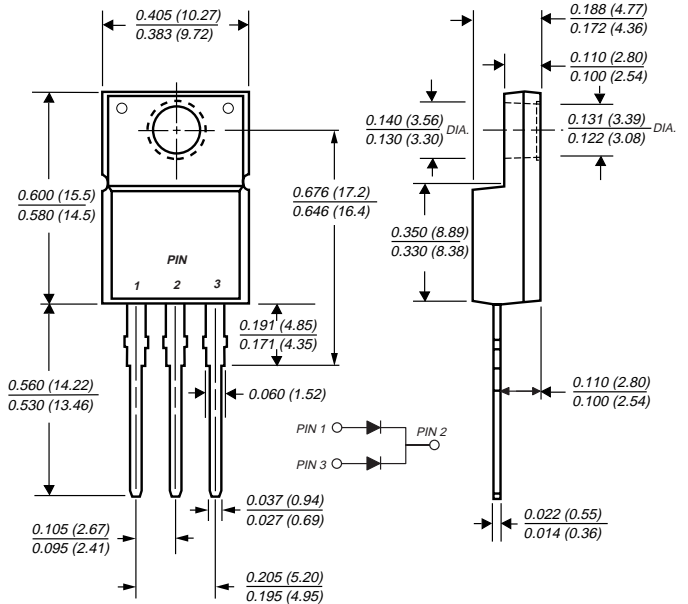


Reverse Voltage 300 to 400V
Forward Current 10A
Reverse Recovery Time 35ns

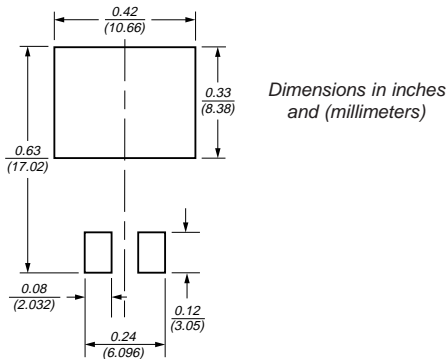
TO-220AB (BYT28, UG10 Series)



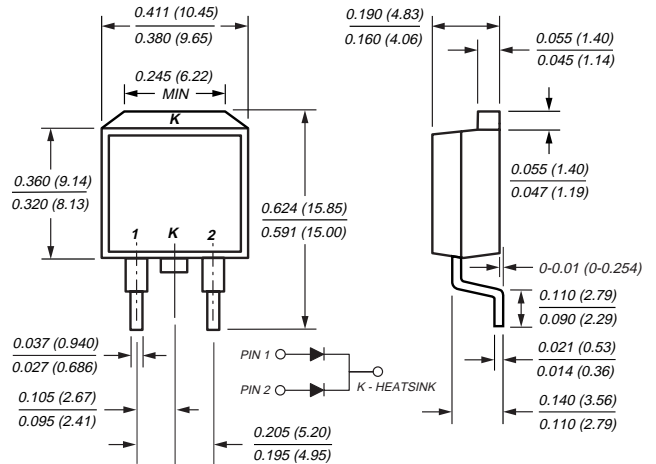
ITO-220AB (BYT28F, UGF10 Series)



Mounting Pad Layout TO-263AB



TO-263AB (BYT28B, UGB10 Series)



Mechanical Data

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

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

Polarity: As marked

Mounting Position: Any

Mounting Torque: 10 in-lbs maximum

Weight: 0.08 oz., 2.24 g

Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Ideally suited for free wheeling diode power factor correction applications
- Soft recovery characteristics
- Excellent high temperature switching
- Optimized to reduce switching losses
- High temperature soldering guaranteed: 250°C/10 seconds at terminals
- Glass passivated chip junction

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

Parameter	Symbol	UG10FCT	UG10GCT	Unit
		BYT28-300	BYT28-400	
Maximum repetitive peak reverse voltage	V _{RRM}	300	400	V
Maximum working reverse voltage	V _{RWM}	300	400	V
Maximum RMS voltage	V _{RMS}	210	280	
Maximum DC blocking voltage	V _{DC}	300	400	V
Maximum average forward rectified current at T _C = 100°C	I _{F(AV)}	10 5		A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg	I _{FSM}	60		A
Operating junction and storage temperature range	T _J , T _{STG}	-40 to +150		°C
RMS Isolation voltage (BYT28F, UGF types) from terminals to heatsink with t = 1 second, RH ≤ 30%	V _{ISOL}	4500 ⁽¹⁾ 3500 ⁽²⁾ 1500 ⁽³⁾		V

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

Parameter	Symbol	Value	Unit
Maximum instantaneous forward voltage per leg ⁽⁴⁾ at I _F = 5A, T _J = 25°C at I _F = 10A, T _J = 25°C at I _F = 5A, T _J = 150°C	V _F	1.30 1.40 1.05	V
Maximum reverse current per leg at V _{RRM}	I _R	10 200	μA
Maximum reverse recovery time per leg at I _F = 0.5A, I _R = 1.0A, I _{rr} = 0.25A	t _{rr}	35	ns
Maximum reverse recovery time per leg at I _F = 1.0A, di/dt = 100A/μs, V _R = 30V, I _{rr} = 0.1 I _{RM}	t _{rr}	50	ns
Maximum reverse recovery current per leg at I _F = 5A, di/dt = 50A/μs, V _R = 30V, T _C = 100°C	I _{RM}	3.0	A
Maximum stored charge per leg I _F = 2A, di/dt = 20A/μs, V _R = 30V, I _{rr} = 0.1 I _{RM}	Q _{rr}	50	nC

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

Parameter	Symbol	UG10	UGF10	UGB10	Unit
		BYT28	BYT28F	BYT28B	
Typical thermal resistance junction to case	R _{θJC}	4.5	6.7	4.5	°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 ≤ 4.9 mm (0.19")
- (4) Pulse test: 300μs pulse width, 1% duty cycle



Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig 1 — Forward Current Derating Curve

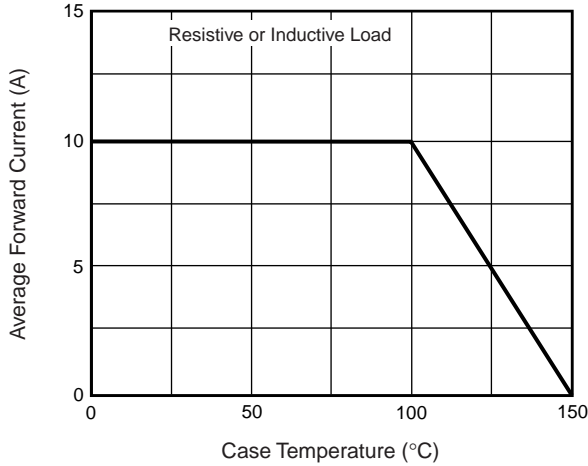


Fig 2 — Maximum Non-Repetitive Peak Forward Surge Current Per Leg

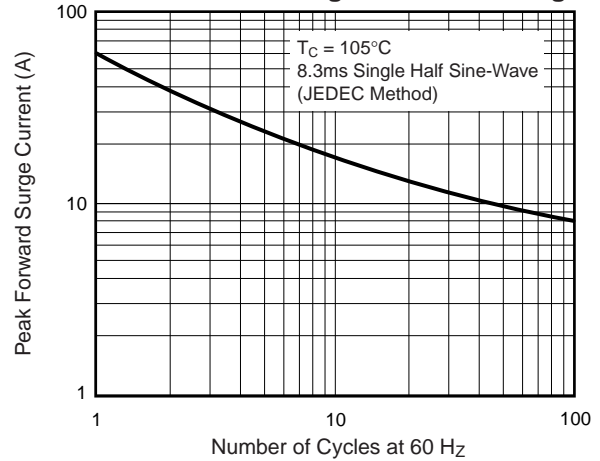


Fig 3 — Typical Instantaneous Forward Characteristics Per Leg

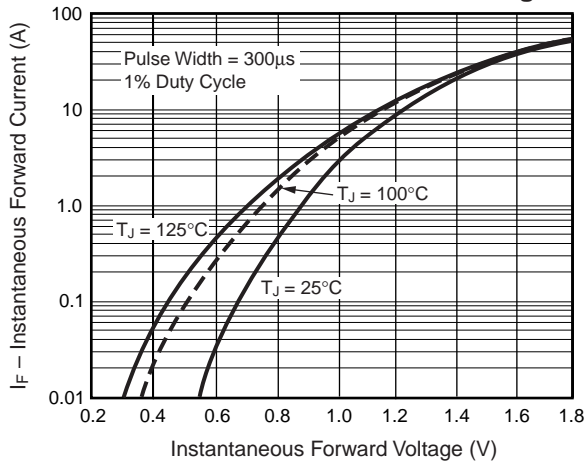


Fig 4 — Typical Reverse Characteristics Per Leg

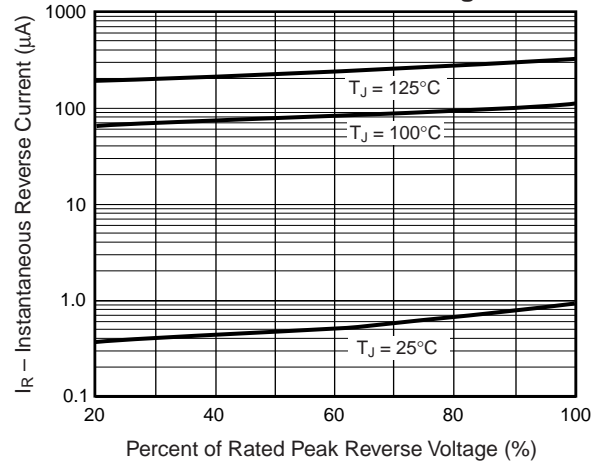


Fig 5 — Reverse Switching Characteristics Per Leg

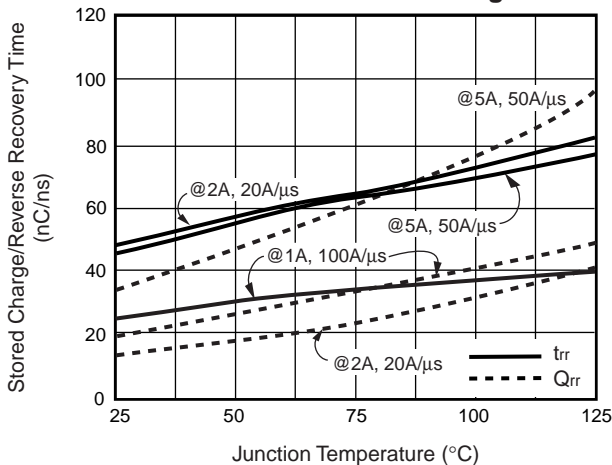


Fig 6 — Typical Junction Capacitance Per Leg

