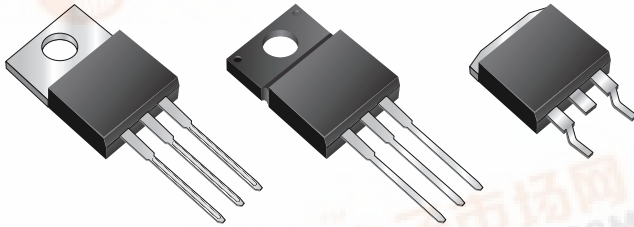




BYQ28E, BYQ28EF, BYQ28EB, UG10DCT, UGF10DCT, UGB10DCT Series

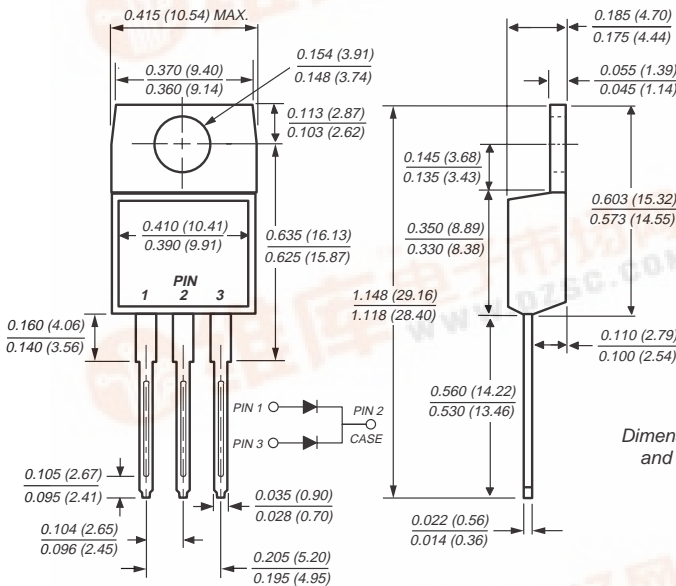
Vishay Semiconductors
formerly General Semiconductor

Dual Ultrafast Soft Recovery Rectifiers

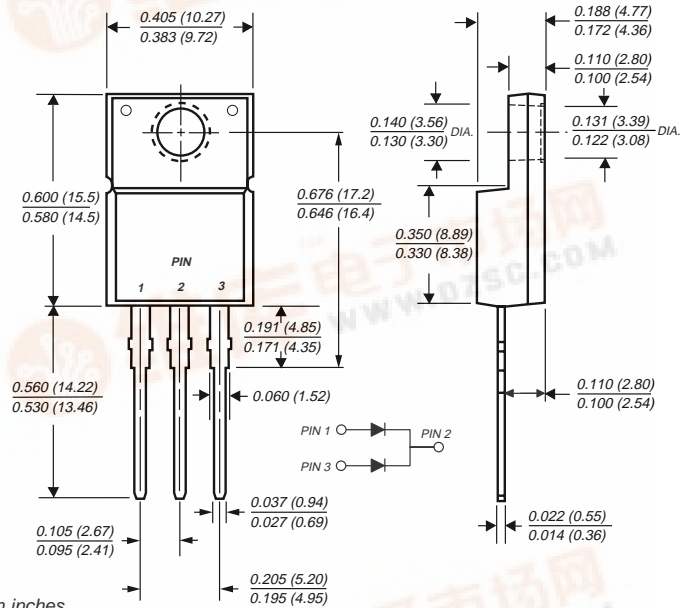


Reverse Voltage 100 to 200 V
Forward Current 10 A
Reverse Recovery Time 20ns

TO-220AB (BYQ28E, UG10 Series)

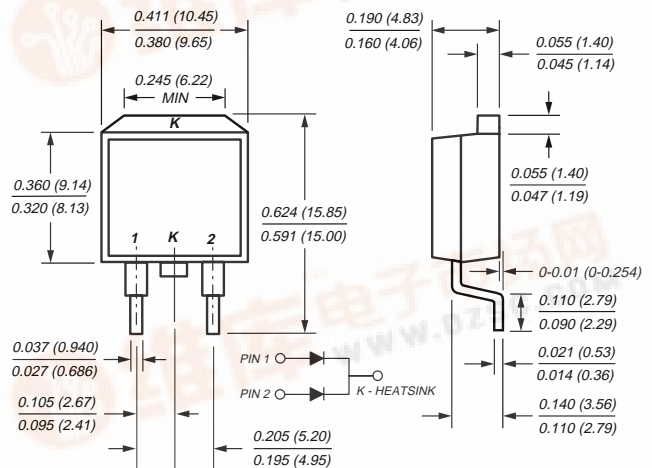


ITO-220AB (BYQ28EF, UGF10 Series)

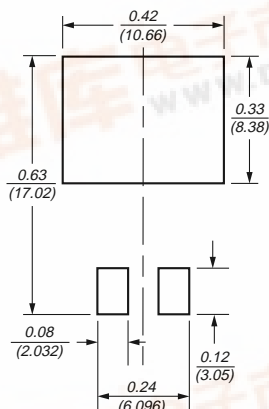


Dimensions in inches and (millimeters)

TO-263AB (BYQ28EB, UGB10 Series)



Mounting Pad Layout TO-263AB



Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- High reverse energy capability
- Excellent high temperature switching
- High temperature soldering guaranteed: 250°C/10 seconds at terminals
- Glass passivated chip junction
- Soft recovery characteristics

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

BYQ28E, BYQ28EF, BYQ28EB, UG10DCT, UGF10DCT, UGB10DCT Series



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Maximum Ratings (T _C = 25°C unless otherwise noted)		UG10BCT	UG10CCT	UG10DCT	
Parameter	Symbol	BYQ28E-100	BYQ28E-150	BYQ28E-200	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	100	150	200	V
Working peak reverse voltage	V _{RWM}	100	150	200	V
Maximum DC blocking voltage	V _{DC}	100	150	200	V
Maximum average forward rectified current at T _C = 100°C	<i>Total device</i> I _{F(AV)} <i>Per leg</i>		10 5		A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg	I _{FSM}		55		A
Non-repetitive peak reverse current per leg at t _p = 100μs	I _{RSM}		0.2		A
Electrostatic discharge capacitor voltage, Human body model: C = 250pF, R = 1.5kΩ	V _C		8		KV
Operating junction and storage temperature range	T _J , T _{STG}		-40 to +150		°C
RMS Isolation voltage (BYQ28EF, UGF types) from terminals to heatsink with t = 1 second, RH ≤ 30%	V _{ISOL}		4500 (NOTE 1) 3500 (NOTE 2) 1500 (NOTE 3)		V

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

Parameter	Symbol	Value	Unit
Maximum instantaneous forward voltage per leg (Note 4) at I _F = 10A, T _J = 25°C at I _F = 5A, T _J = 25°C at I _F = 5A, T _J = 150°C	V _F	1.25 1.10 0.895	V
Maximum reverse current per leg at working peak reverse voltage (Note 4)	I _R	10 200	μA
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}	25	ns
Maximum reverse recovery time per leg at I _F = 0.5A, I _R = 1.0A, I _{rr} = 0.25A	t _{rr}	20	ns
Maximum stored charge per leg I _F = 2A, di/dt = 20A/μs, V _R = 30V, I _{rr} = 0.1 I _{RM}	Q _{rr}	9	nC

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

Parameter	Symbol	UG10	UGF10	UGB10	Unit
		BYQ28E	BYQ28EF	BYQ28EB	
Typical thermal resistance — junction to ambient per leg	R _{θJA} R _{θJC}	50 4.5	55 6.7	50 4.5	°C/W °C/W

Notes:

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



BYQ28E, BYQ28EF, BYQ28EB, UG10DCT, UGF10DCT, UGB10DCT Series

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

