

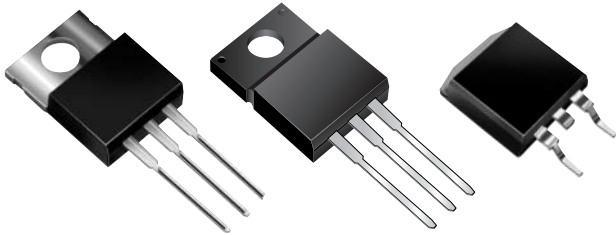


UG18CT, UGF18CT, UGB18CT Series

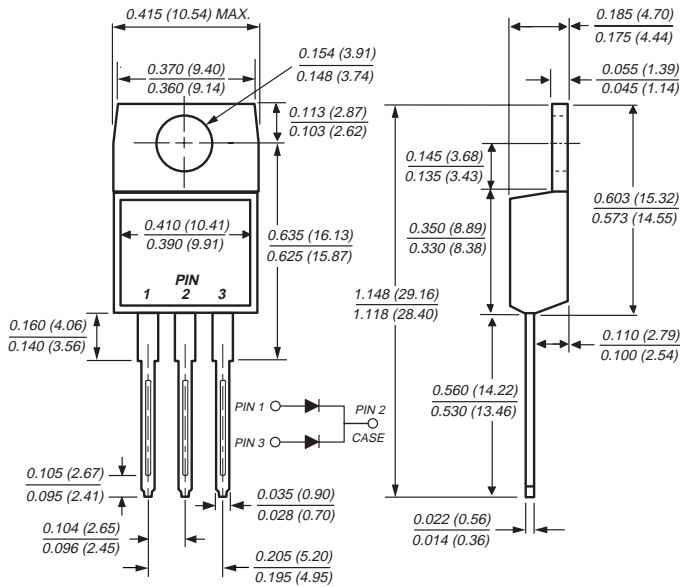
Vishay Semiconductors
formerly General Semiconductor

Dual Ultrafast Plastic Rectifiers

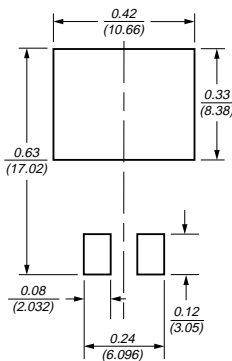
Reverse Voltage 50 to 200V
Forward Current 18A
Reverse Recovery Time 20ns



TO-220AB (UG18CT Series)

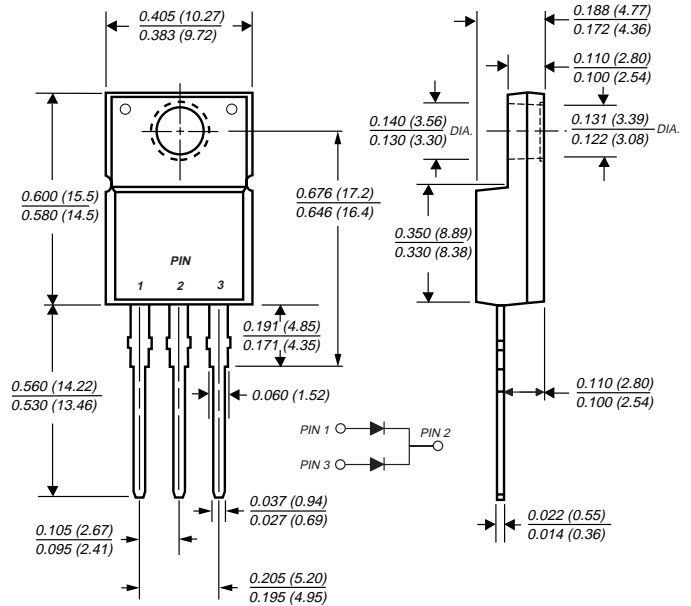


Mounting Pad Layout TO-263AB

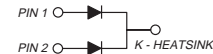
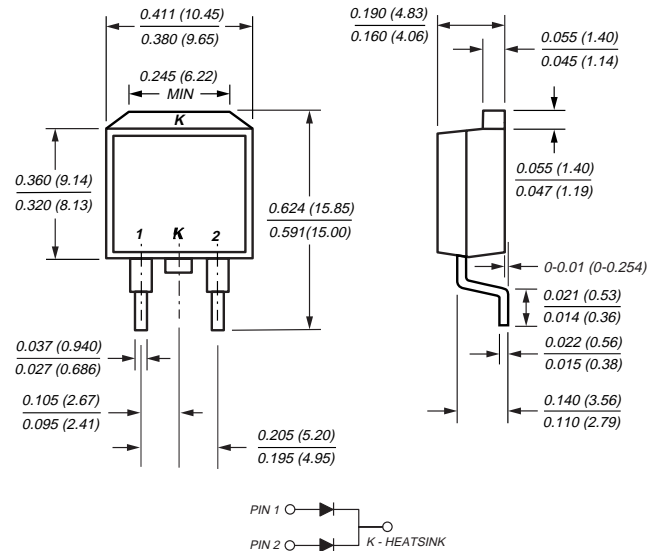


Dimensions in inches and (millimeters)

ITO-220AB (UGF18CT Series)



TO-263AB (UGB18CT Series)



Features

- Plastic package has Underwriters Laboratory 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
- Glass passivated chip junction

Mechanical Data

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

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

High temperature soldering guaranteed: 250°C/10 sec. at terminals

Polarity: As marked **Mounting Position:** Any

Mounting Torque: 10 in-lbs maximum

Weight: 0.08 oz., 2.24 g

UG18CT, UGF18CT, UGB18CT Series



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

Parameter	Symbol	UG18ACT	UG18BCT	UG18CCT	UG18DCT	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)}	18				A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg	I _{FSM}	175				A
Operating junction and storage temperature range	T _J , T _{STG}	-65 to +150				°C
RMS Isolation voltage (UGF) from terminals to heatsink with t = 1.0 second, RH ≤ 30%	V _{ISOL}	4500 ⁽¹⁾ 3500 ⁽²⁾ 1500 ⁽³⁾				V

Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	UG18ACT	UG18BCT	UG18CCT	UG18DCT	Unit
Maximum instantaneous forward voltage per leg ⁽⁴⁾ at 9.0A 20A 5.0A, T _J = 100°C	V _F	1.1 1.2 0.95				V
Maximum DC reverse current at rated DC blocking voltage per leg T _A = 25°C T _A = 100°C	I _R	10 300				μA
Maximum reverse recovery time per leg at I _F = 0.5A, I _R = 1.0A, I _{rr} = 0.25A	t _{rr}	20				ns
Maximum reverse recovery time per leg at I _F = 9.0A, V _R = 30V, di/dt = 50A/μs, I _{rr} = 10% I _{RM} T _J = 25°C T _J = 100°C	t _{rr}	30 50				ns
Maximum stored charge per leg I _F = 9.0A, V _R = 30V, di/dt = 50A/μs, I _{rr} = 10% I _{RM} T _J = 25°C T _J = 100°C	Q _{rr}	20 45				nC
Typical junction capacitance per leg at 4.0V, 1MHz	C _J	30				pF

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

Parameter	Symbol	UG18	UGF18	UGB18	Unit
Typical thermal resistance from junction to case per leg	R _{θJC}	4.0	6.0	4.0	°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 ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig. 1 – Forward Current Derating Curve

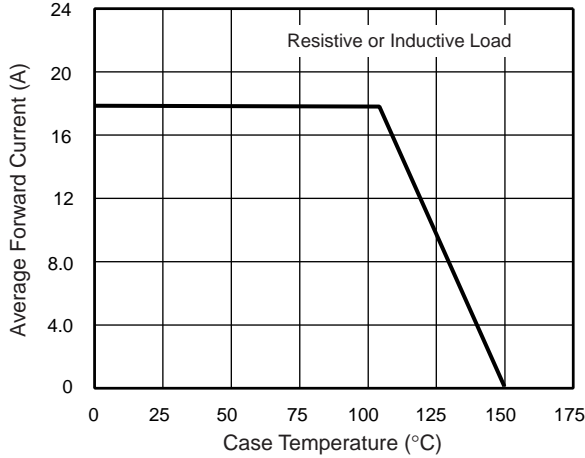


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current Per Leg

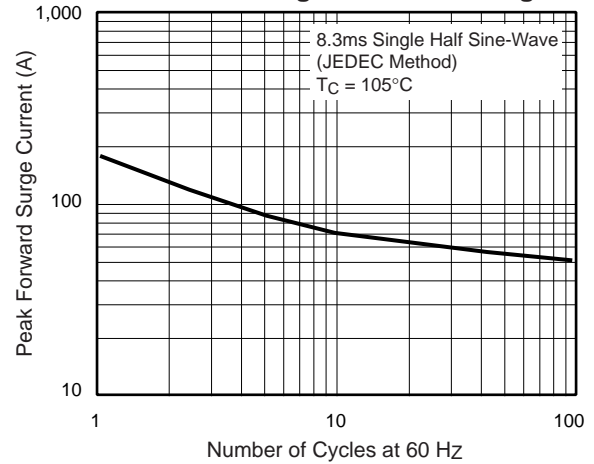


Fig. 3 – Typical Instantaneous Forward Characteristics Per Leg

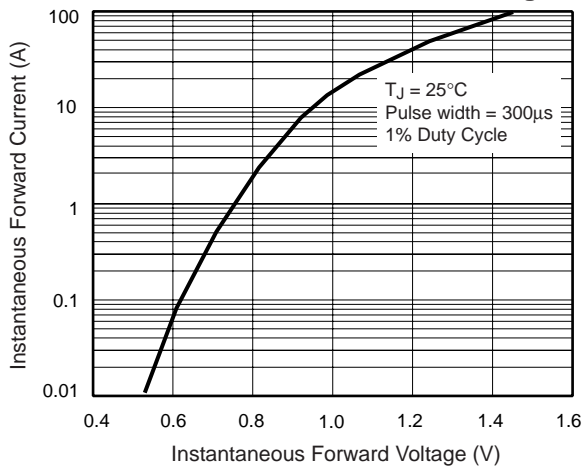


Fig. 4 – Typical Reverse Leakage Characteristics Per Leg

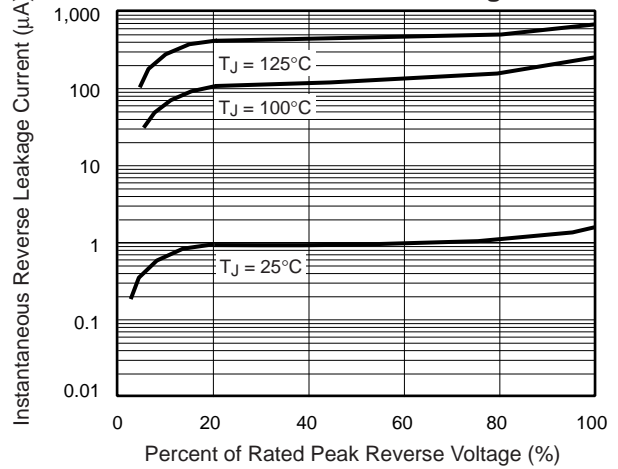


Fig. 5 – Reverse Switching Characteristics Per Leg

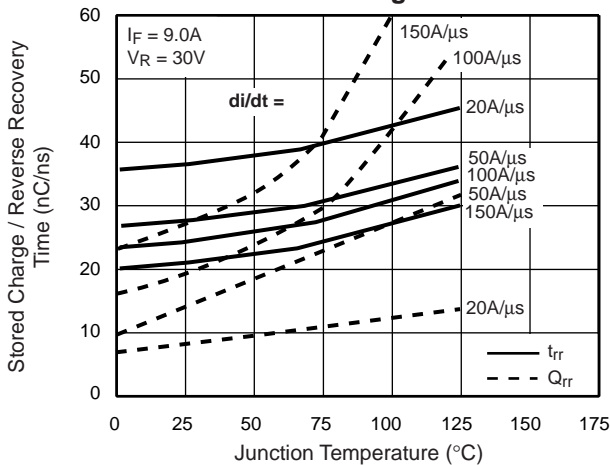


Fig. 6 – Typical Junction Capacitance Per Leg

