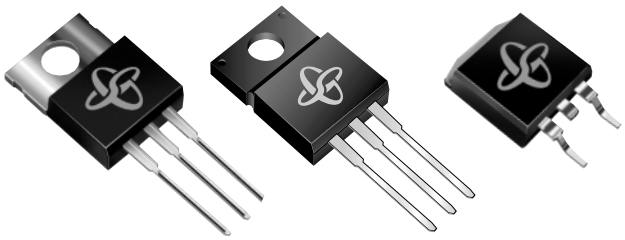
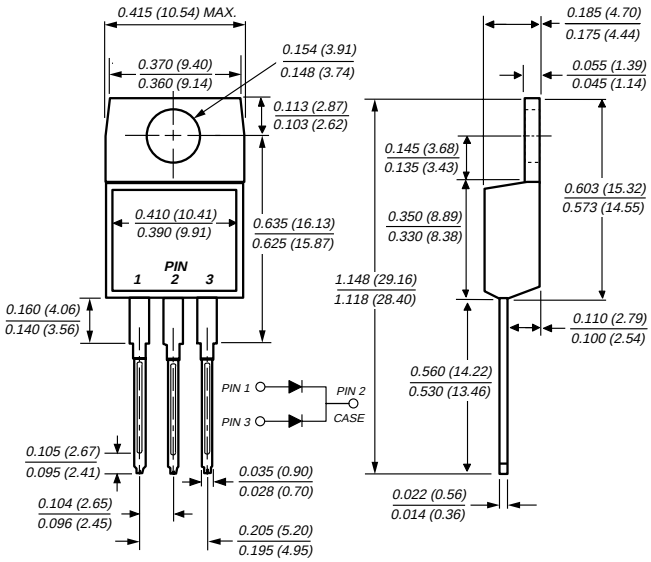
GENERAL SEMICONDUCTOR® UG18CT, UGF18CT, UGB18CT Series

Dual Ultrafast Plastic Rectifiers

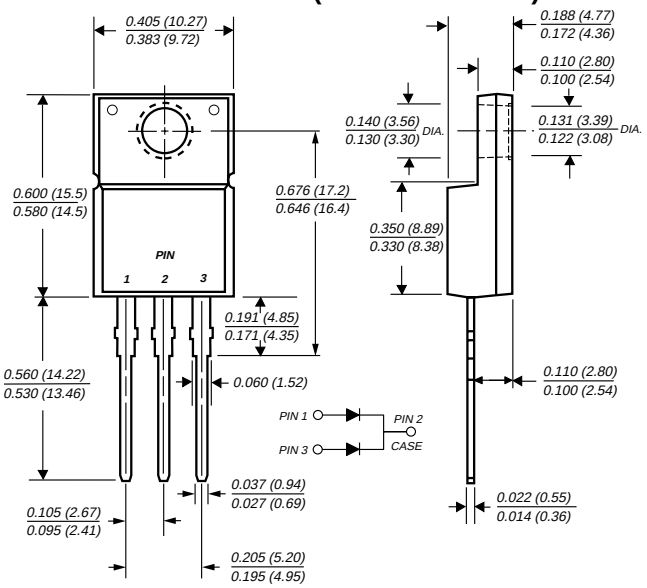
Reverse Voltage 50 to 200V
Forward Current 18A
Reverse Recovery Time 20ns



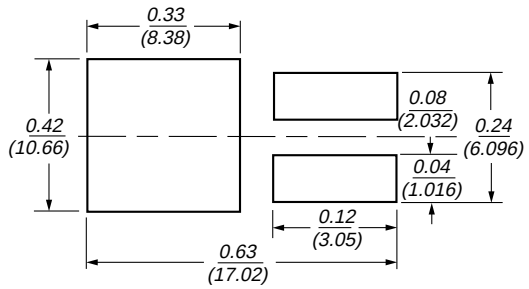
TO-220AB (UG18CT Series)



ITO-220AB (UGF18CT Series)

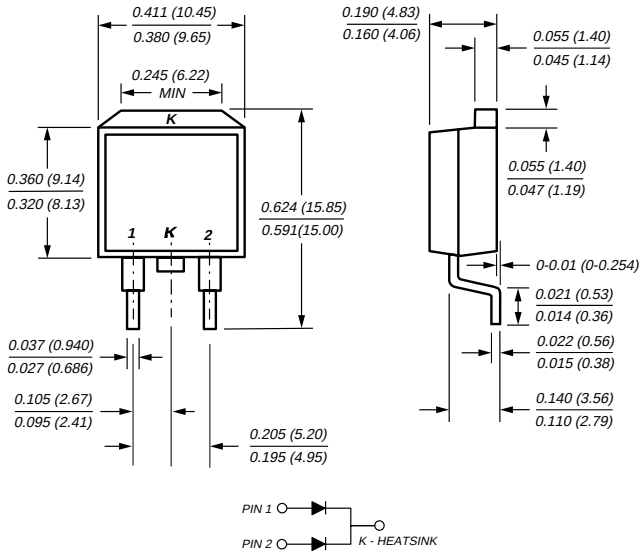


Mounting Pad Layout TO-263AB



Dimensions in inches and (millimeters)

TO-263AB (UGB18CT Series)



Mechanical Data

Case: JEDEC TO-220AB, ITO-220AB & TO-263AB molded 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 ounce, 2.24 grams

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

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Dual Ultrafast Plastic Rectifiers

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(4) at 9.0A 20A 5.0A, T_J=100°C	V_F	1.1 1.2 0.95				V
Maximum DC reverse current T_A = 25°C at rated DC blocking voltage per leg 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 T_J = 25°C I_F = 9.0A, V_R = 30V, di/dt = 50A/µs, I_{rr} = 10% I_{RM} T_J = 100°C	t_{rr}	30 50				ns
Maximum stored charge per leg T_J = 25°C I_F = 9.0A, V_R = 30V, di/dt = 50A/µs, I_{rr} = 10% I_{RM} 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	$R_{\Theta JC}$	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

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

Fig. 1 – Forward Current Derating Curve

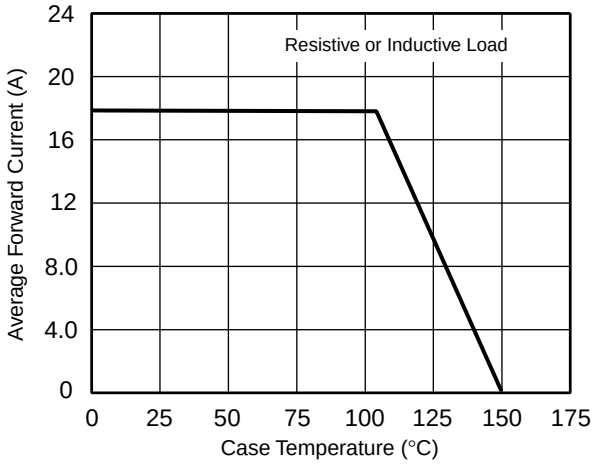

Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current Per Leg

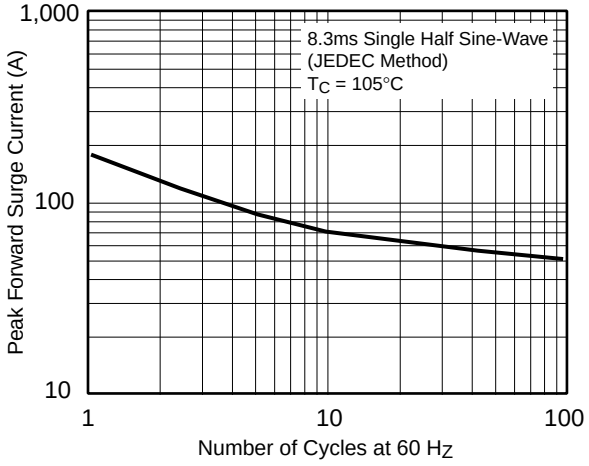

Fig. 3 – Typical Instantaneous Forward Characteristics Per Leg

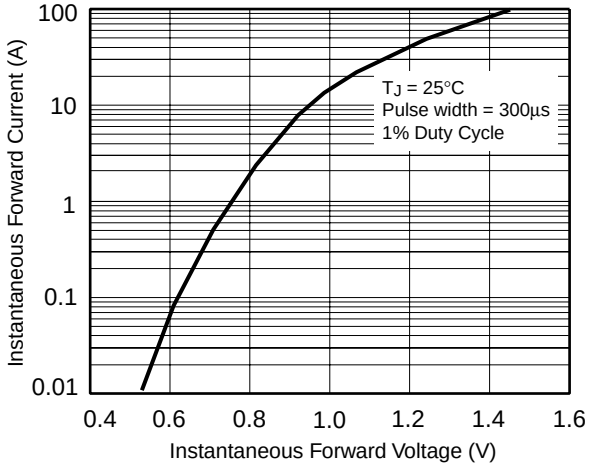

Fig. 4 – Typical Reverse Leakage Characteristics Per Leg

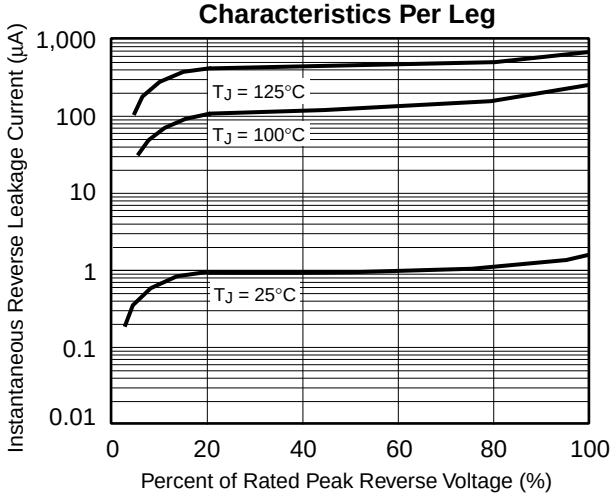

Fig. 5 – Reverse Switching Characteristics Per Leg

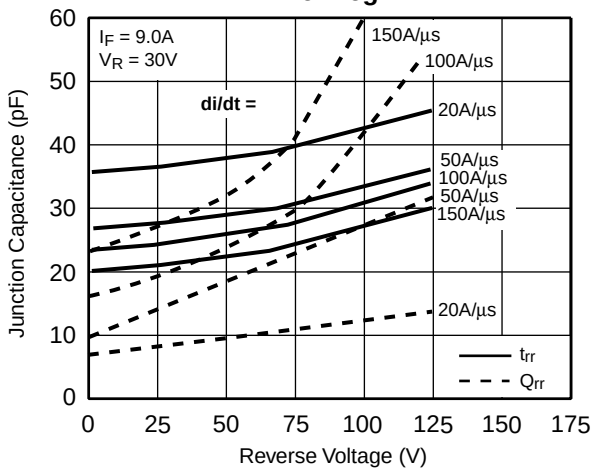

Fig. 6 – Typical Junction Capacitance Per Leg