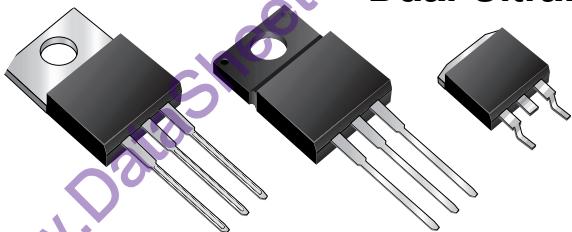
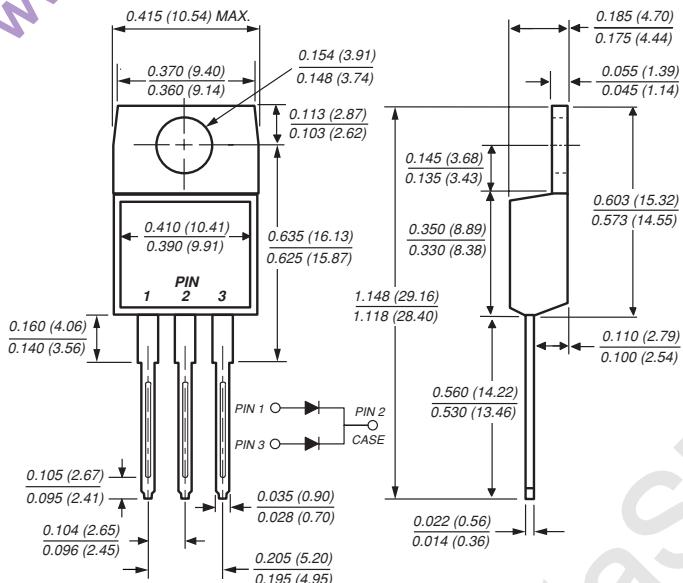


# Dual Ultrafast Plastic Rectifiers

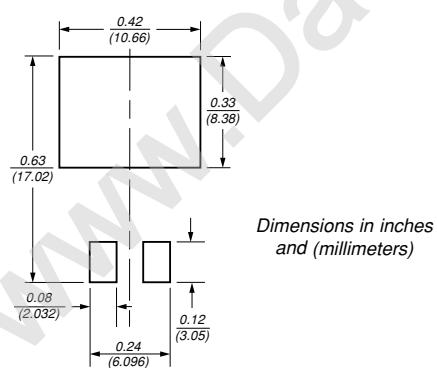
**Reverse Voltage** 50 to 200V  
**Forward Current** 18A  
**Reverse Recovery Time** 20ns



## **TO-220AB (UG18CT Series)**



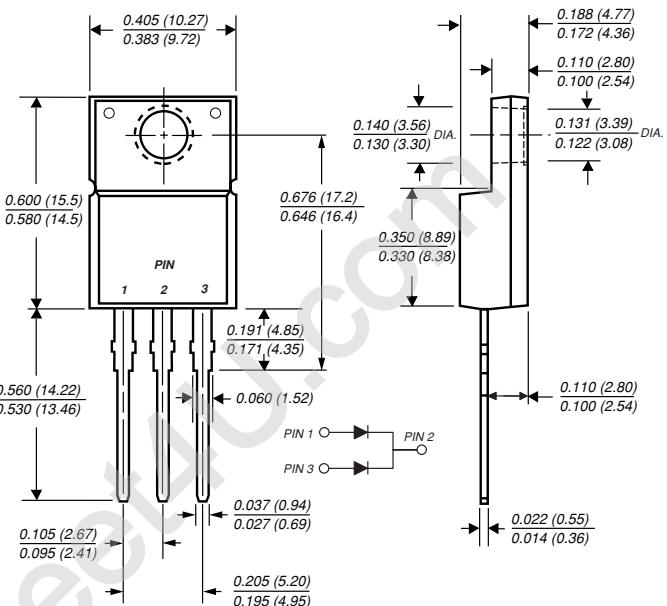
## **Mounting Pad Layout TO-263AB**



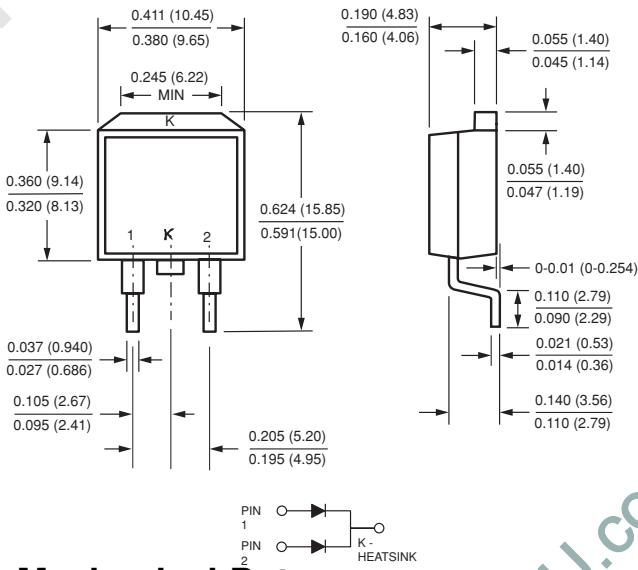
## Features

- 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

## **ITO-220AB (UGF18CT Series)**



## **TO-263AB (UGB18CT Series)**



## Mechanical Data<sup>2</sup>

**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 oz., 2.24 g

# UG18CT, UGF18CT, UGB18CT Series

Vishay Semiconductors  
formerly General Semiconductor



## Maximum Ratings (T<sub>c</sub> = 25°C unless otherwise noted)

Parameter	Symbol	UG18ACT	UG18BCT	UG18CCT	UG18DCT	Unit
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	150	200	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	105	140	V
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	150	200	V
Maximum average forward rectified current at T <sub>c</sub> = 105°C	I <sub>F(AV)</sub>			18		A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg	I <sub>FSM</sub>			175		A
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>TSG</sub>			-65 to +150		°C
RMS Isolation voltage (UGF) from terminals to heatsink with t = 1.0 second, RH ≤ 30%	V <sub>ISOL</sub>			4500 <sup>(1)</sup> 3500 <sup>(2)</sup> 1500 <sup>(3)</sup>		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 <sup>(4)</sup> at 9.0A 20A 5.0A, T <sub>J</sub> =100°C	V <sub>F</sub>			1.1 1.2 0.95		V
Maximum DC reverse current at rated DC blocking voltage per leg T <sub>A</sub> = 25°C T <sub>A</sub> = 100°C	I <sub>R</sub>			10 300		μA
Maximum reverse recovery time per leg at I <sub>F</sub> = 0.5A, I <sub>R</sub> = 1.0A, I <sub>rr</sub> = 0.25A	t <sub>rr</sub>			20		ns
Maximum reverse recovery time per leg at I <sub>F</sub> = 9.0A, V <sub>R</sub> = 30V, dI/dt = 50A/μs, I <sub>rr</sub> = 10% I <sub>RM</sub> T <sub>J</sub> = 25°C T <sub>J</sub> = 100°C	t <sub>rr</sub>			30 50		ns
Maximum stored charge per leg I <sub>F</sub> = 9.0A, V <sub>R</sub> = 30V, dI/dt = 50A/μs, I <sub>rr</sub> = 10% I <sub>RM</sub> T <sub>J</sub> = 25°C T <sub>J</sub> = 100°C	Q <sub>rr</sub>			20 45		nC
Typical junction capacitance per leg at 4.0V, 1MHz	C <sub>J</sub>			30		pF

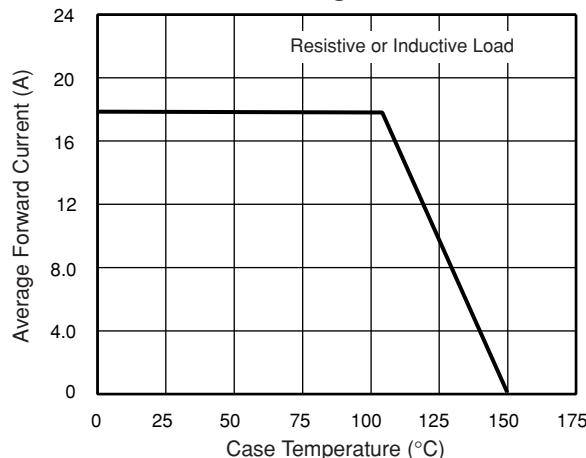
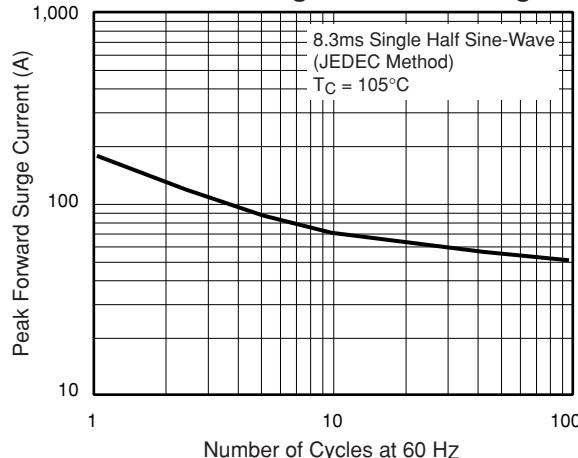
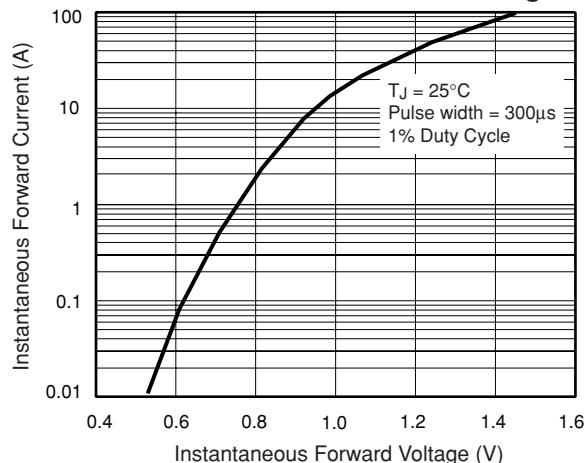
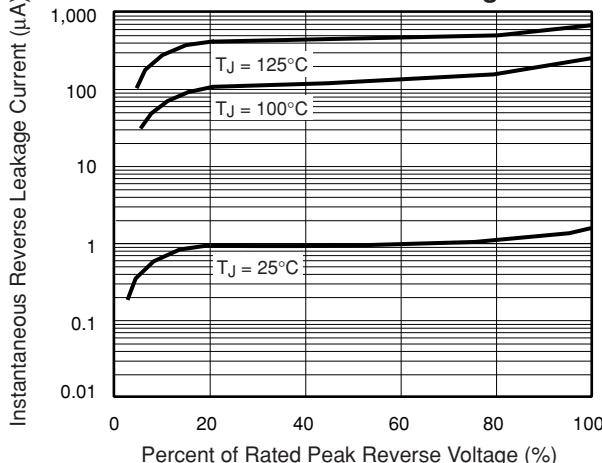
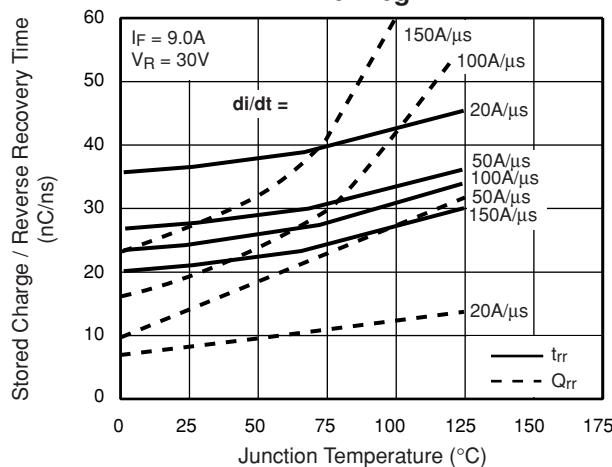
## Thermal Characteristics (T<sub>c</sub> = 25°C unless otherwise noted)

Parameter	Symbol	UG18	UGF18	UGB18	Unit
Typical thermal resistance from junction to case per leg	R <sub>θJC</sub>	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**
