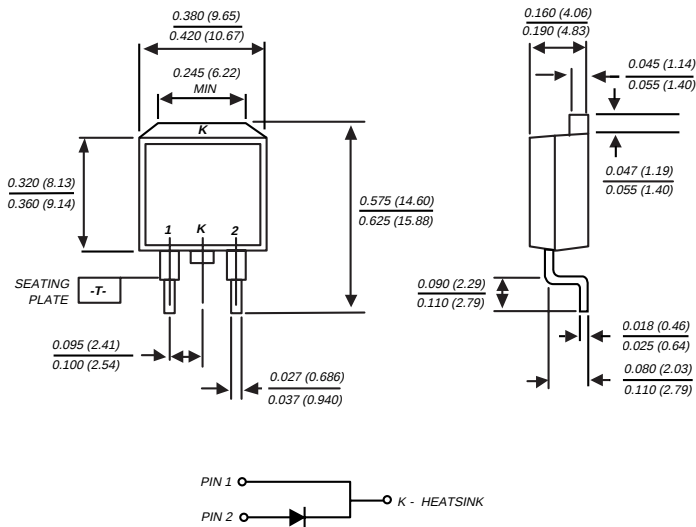


UGB8AT THRU UGB8DT

ULTRAFAST EFFICIENT PLASTIC RECTIFIER

Reverse Voltage - 50 to 200 Volts Forward Current - 8.0 Amperes

TO-263AB



FEATURES

- ◆ Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- ◆ Ideally suited for use in very high frequency switching power supplies, inverters and as a free wheeling diode
- ◆ Ultrafast reverse recovery time for high efficiency
- ◆ Soft recovery characteristics
- ◆ Excellent high temperature switching
- ◆ Glass passivated chip junction
- ◆ High temperature soldering in accordance with CECC 802 / Reflow guaranteed



MECHANICAL DATA

Case: JEDEC TO-263AB molded plastic body

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

Polarity: As marked

Mounting Position: Any

Weight: 0.08 ounce, 2.24 grams

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	UGB8AT	UGB8BT	UGB8CT	UGB8DT	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	Volts
Maximum RMS voltage	V_{RMS}	35	70	105	140	Volts
Maximum DC blocking voltage	V_{DC}	50	100	150	200	Volts
Maximum average forward rectified current at $T_C=100^\circ\text{C}$	$I_{(AV)}$	8.0				Amps
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) at $T_C=100^\circ\text{C}$	I_{FSM}	150.0				Amps
Maximum instantaneous forward voltage at: 8.0 20A 5.0A, $T_J=150^\circ\text{C}$	V_F	1.00 1.20 0.95				Volts
Maximum DC reverse current at rated DC blocking voltage $T_C=25^\circ\text{C}$ $T_C=100^\circ\text{C}$	I_R	10.0 300.0				μA
Maximum reverse recovery time (NOTE 1)	t_{rr}	20.0				ns
Maximum reverse recovery time (NOTE 2) $T_J=25^\circ\text{C}$ $T_J=100^\circ\text{C}$	t_{rr}	30.0 50.0				ns
Maximum recovered stored charge (NOTE 2) $T_J=25^\circ\text{C}$ $T_J=100^\circ\text{C}$	Q_{rr}	20.0 45.0				nC
Typical junction capacitance (NOTE 3)	C_J	45.0				pF
Typical thermal resistance (NOTE 4)	$R_{\theta JC}$	4.0				$^\circ\text{C/W}$
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150				$^\circ\text{C}$

NOTES:

(1) Reverse recovery test conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{rr}=0.25\text{A}$

(2) T_{rr} and Q_{rr} measured at $I_F=8.0\text{A}$, $V_R=30\text{V}$, $di/dt=50\text{A}/\mu\text{s}$, $I_{rr}=10\%$ I_{RM} for measurement of t_{rr}

(3) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts

(4) Thermal resistance from junction to case

RATINGS AND CHARACTERISTIC CURVES UGB8AT THRU UGB8DT

FIG. 1 - FORWARD CURRENT DERATING CURVE

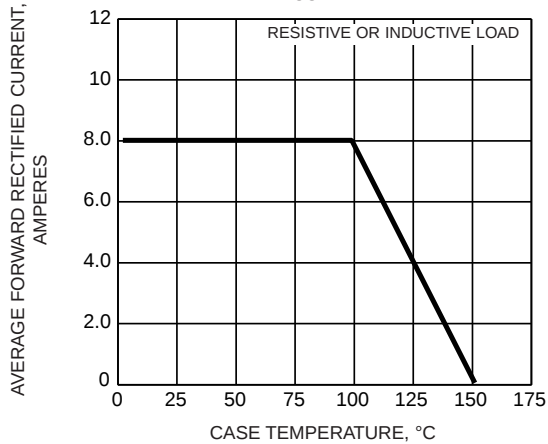


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

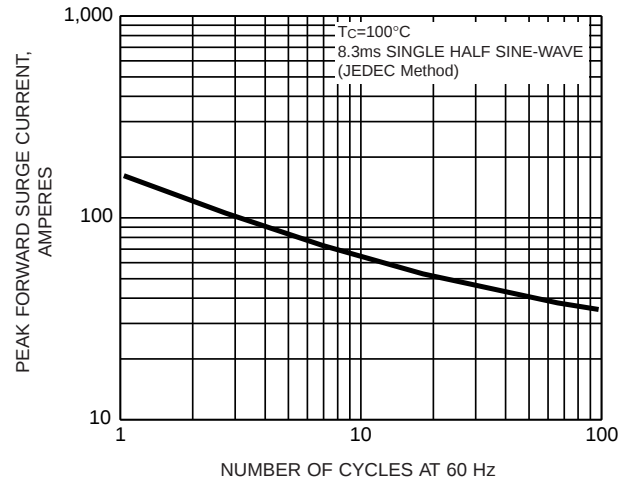


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

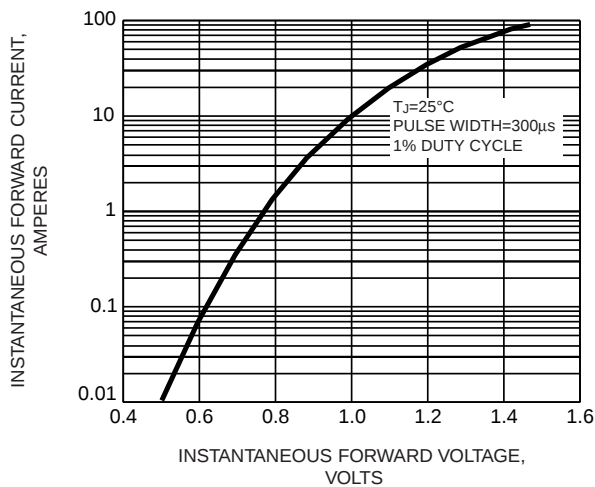


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

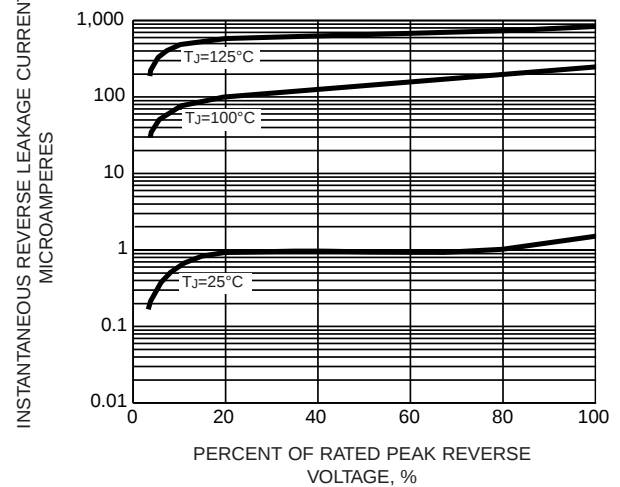


FIG. 5 - REVERSE SWITCHING CHARACTERISTICS

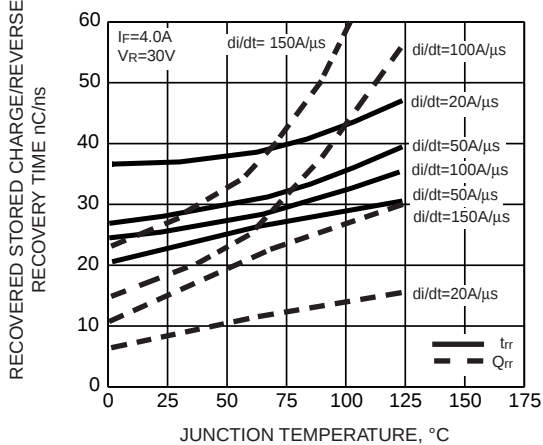


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

