



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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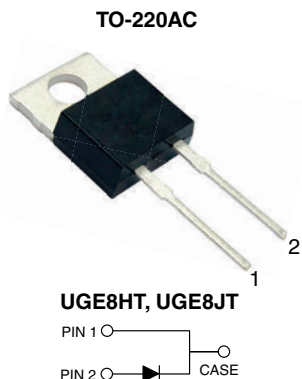
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High Voltage Ultrafast Rectifier



FEATURES

- Power pack
- Glass passivated pellet chip junction
- Ultrafast recovery time
- Soft recovery characteristics
- Low switching losses, high efficiency
- High forward surge capability
- Solder dip 275 °C max., 10 s per JESD 22-B106
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

TYPICAL APPLICATIONS

For use in high voltage and high frequency power factor correction application.

MECHANICAL DATA

Case: TO-220AC

Molding compound meets UL 94V-0 flammability rating
Base P/N-E3 - RoHS-compliant, commercial grade

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix meets JESD 201 class 1A whisker test

Polarity: As marked

Mounting Torque: 10 in-lbs max.

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	8.0 A
V_{RRM}	500 V, 600 V
I_{FSM}	100 A
t_{rr}	25 ns
t_{fr}	500 ns
V_F at $I_F = 8$ A	1.5 V
T_J max.	150 °C
Package	TO-220AC
Diode variation	Single die

MAXIMUM RATINGS ($T_C = 25$ °C unless otherwise noted)				
PARAMETER	SYMBOL	UGE8HT	UGE8JT	UNIT
Max. repetitive peak reverse voltage	V_{RRM}	500	600	V
Max. working reverse voltage	V_{RWM}	400	480	V
Max. RMS voltage	V_{RMS}	350	420	V
Max. DC blocking voltage	V_{DC}	500	600	V
Max. average forward rectified current	$I_{F(AV)}$	8.0		A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	100		A
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150		°C



ELECTRICAL CHARACTERISTICS (T _C = 25 °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	UGE8HT	UGE8JT	UNIT
Max. instantaneous forward voltage ⁽¹⁾	I _F = 8 A	T _J = 25 °C	V _F	1.75		V
	I _F = 8 A	T _J = 125 °C		1.50		
Max. DC reverse current at V _{RWM}		T _J = 25 °C	I _R	30		μA
		T _J = 100 °C		800		μA
		T _J = 125 °C		4.0		mA
Max. reverse recovery time	I _F = 0.5 A, I _R = 1.0 A, I _{rr} = 0.25 A		t _{rr}	25		ns
	I _F = 1.0 A, dI/dt = 50 A/μs, V _R = 30 V, I _{rr} = 0.1 I _{RM}		t _{rr}	50		ns
Typical softness factor (t _b /t _a)	I _F = 8.0 A, dI/dt = 240 A/μs, V _R = 400 V, I _{rr} = 0.1 I _{RM}		S	1.0		-
Max. reverse recovery current	I _F = 8.0 A, dI/dt = 64 A/μs, V _R = 400 V, T _C = 125 °C		I _{RM}	5.5		A
	I _F = 8.0 A, dI/dt = 240 A/μs, V _R = 400 V, T _C = 125 °C		I _{RM}	10		A
Peak forward recovery time	I _F = 8.0 A, dI/dt = 64 A/μs, V _F = 1.1 x V _{F max.}		t _{fr}	500		ns

Note⁽¹⁾ Pulse test: 300 μs pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS ($T_C = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)				
PARAMETER	SYMBOL	UGE8HT	UGE8JT	UNIT
Typical thermal resistance from junction to case	$R_{\theta JC}$	2.2		$^{\circ}\text{C}/\text{W}$

ORDERING INFORMATION (Example)					
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
TO-220AC	UGE8HT-E3/45	1.80	45	50/tube	Tube

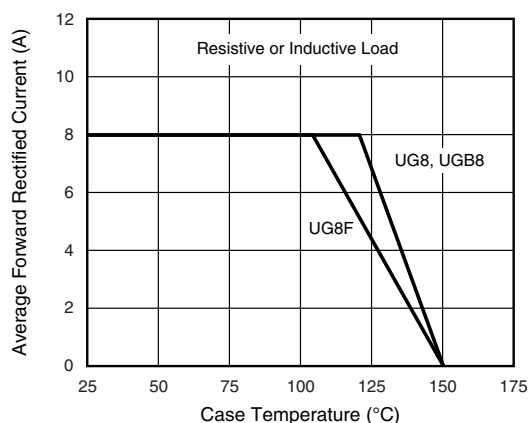
RATINGS AND CHARACTERISTICS CURVES ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

Fig. 1 - Max. Forward Current Derating Curve

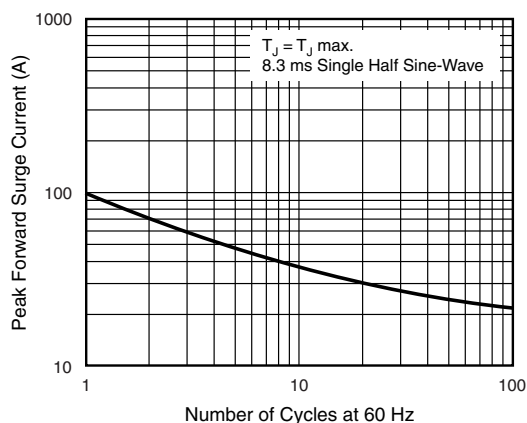


Fig. 2 - Max. Non-Repetitive Peak Forward Surge Current

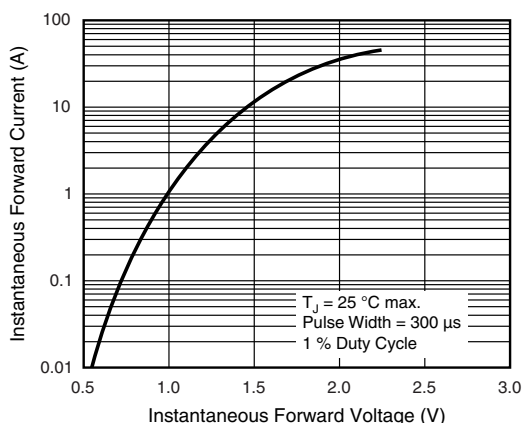


Fig. 3 - Typical Instantaneous Forward Characteristics

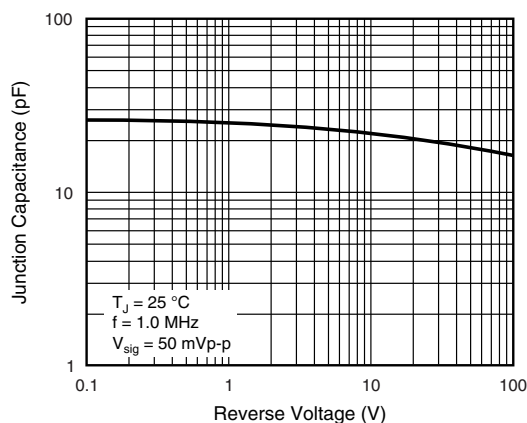


Fig. 5 - Typical Junction Capacitance

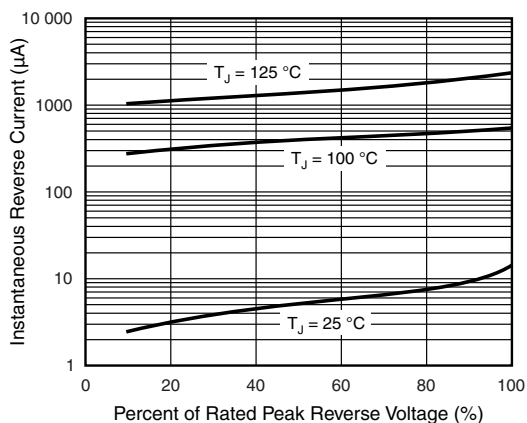


Fig. 4 - Typical Reverse Leakage Characteristics

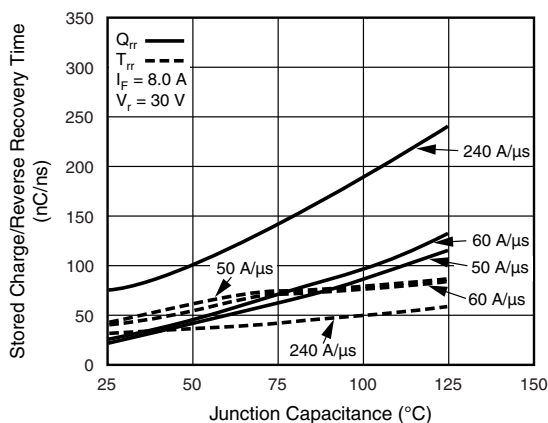
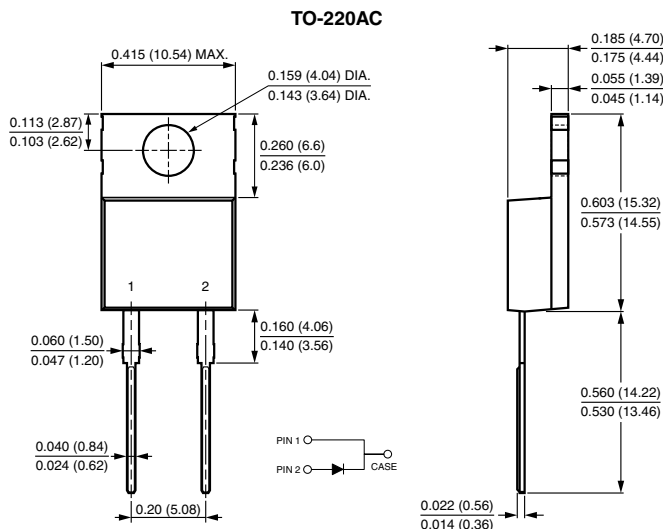


Fig. 6 - Reverse Switching Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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