UG2F, UG2G



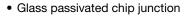
Vishay General Semiconductor

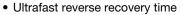
Ultrafast Plastic Rectifier



PRIMARY CHARACTERISTICS				
I _{F(AV)} 2.0 A				
V _{RRM} 300 V, 400 V				
I _{FSM}	50 A			
t _{rr}	35 ns			
V _F at I _F = 2.0 A	0.910 V			
T _J max.	150 °C			

FEATURES





· Low switching losses, high efficiency

• High forward surge capability

• Solder dip 275 °C max. 10 s, per JESD 22-B106

 Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC





TYPICAL APPLICATIONS

For use in high frequency rectification and freewheeling application in switching mode converters and inverters for consumer, computer and telecommunication.

MECHANICAL DATA

Case: DO-204AC (DO-15)

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

Terminals: Matte tin plated leads, solderable per

J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test **Polarity:** Color band denotes cathode end

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	UG2F	UG2G	UNIT	
Maximum repetitive peak reverse voltage	V_{RRM}	300 400		V	
Maximum average forward rectified current at 0.375" (9.5 mm) lead length (fig. 1)	I _{F(AV)}	2.0		А	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	50		А	
Operating junction and storage temperature range	T _J , T _{STG}	- 55 to + 150		°C	

ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.	UNIT
Instantaneous forward voltage	I _F = 1.0 A	T 05 %C		0.921	-	
	I _F = 2.0 A T _J = 25 °C	V _E (1)	1.016	1.10	V	
	I _F = 1.0 A	T _J = 125 °C	VF (1)	0.772	-]
	I _F = 2.0 A			0.910	1.02	
Maximum reverse current	Poted V	T _J = 25 °C	I _R ⁽²⁾	1.8	10	
	Rated V _R T _J = 100 °C	IR ^(−)	108	200	μA	
Maximum reverse recovery time	I _F = 0.5 A, I _R = 1.0 A, I _{rr} = 0.25 A		t _{rr}	23	35	ns
Typical reverse recovery time	$I_F = 1.0 \text{ A}, \text{ dI/dt} = 100 \text{ A/}\mu\text{s},$ $V_R = 30 \text{ V}, I_{rr} = 0.1 I_{RM}$		t _{rr}	31	-	ns
Typical reverse recovery current			I _{RM}	1.7	-	А
Typical stored charge			Q _{rr}	29	-	nC
Typical junction capacitance	4.0 V, 1 MHz		CJ	10	-	pF

Notes

 $^{(1)}\,$ Pulse test: 300 μs pulse width, 1 $\,\%$ duty cycle

⁽²⁾ Pulse test: Pulse width \leq 40 ms

UG2F, UG2G

Vishay General Semiconductor



THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	UG2F UG2G		UNIT	
Typical thermal resistance	R _{0JA} (1)	45		°C/W	
	R _{0JL} (1)	14			

Note

⁽¹⁾ Thermal resistance junction to lead P.C.B. mounted 0.375" (9.5 mm) lead length

ORDERING INFORMATION (Example)					
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE	
UG2G-E3/54	0.404	54	4000	13" diameter paper tape and reel	
UG2G-E3/73	0.404	73	2000	Ammo pack packaging	

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

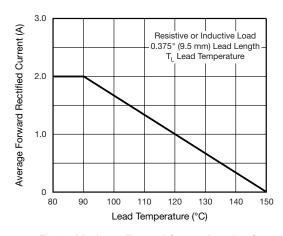


Fig. 1 - Maximum Forward Current Derating Curves

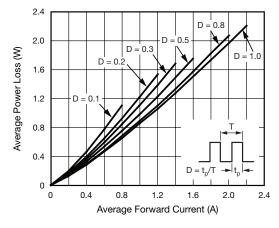


Fig. 2 - Forward Power Loss Characteristics

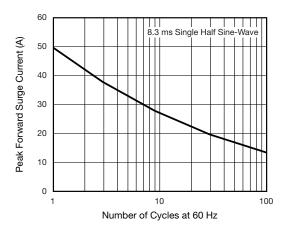


Fig. 3 - Maximum Non-Repetitive Peak Forward Surge Current

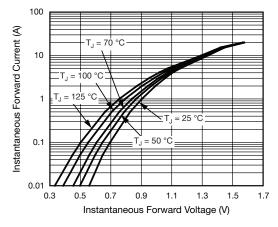


Fig. 4 - Typical Instantaneous Forward Characteristics



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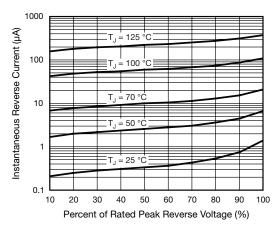


Fig. 5 - Typical Reverse Leakage Characteristics

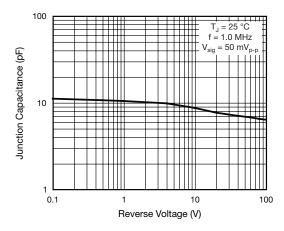
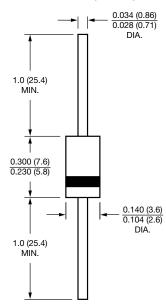


Fig. 6 - Typical Junction Capacitance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-204AC (DO-15)





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