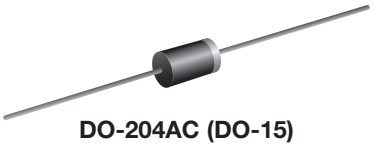
UG2F, UG2G

Vishay General Semiconductor

Ultrafast Plastic Rectifier



DO-204AC (DO-15)

FEATURES

- Glass passivated chip junction
- Ultrafast reverse recovery time
- 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

Pb e3 RoHS COMPLIANT

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

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		A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	50		A
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_J = 25 °C	V_F (1)	0.921	-	V
	I_F = 2.0 A			1.016	1.10	
	I_F = 1.0 A	T_J = 125 °C		0.772	-	
	I_F = 2.0 A			0.910	1.02	
Maximum reverse current	Rated V_R	T_J = 25 °C	I_R (2)	1.8	10	µA
		T_J = 100 °C		108	200	
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 A, dI/dt = 100 A/µs, V_R = 30 V, I_{rr} = 0.1 I_{RM}		t_{rr}	31	-	ns
Typical reverse recovery current			I_{RM}	1.7	-	A
Typical stored charge			Q_{rr}	29	-	nC
Typical junction capacitance	4.0 V, 1 MHz		C_J	10	-	pF

Notes
(1) Pulse test: 300 µs pulse width, 1 % duty cycle
(2) Pulse test: Pulse width ≤ 40 ms

For technical questions within your region, please contact one of the following:
DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com

UG2F, UG2G

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THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)				
PARAMETER	SYMBOL	UG2F	UG2G	UNIT
Typical thermal resistance	$R_{\theta JA}$ (1)	45		°C/W
	$R_{\theta JL}$ (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)

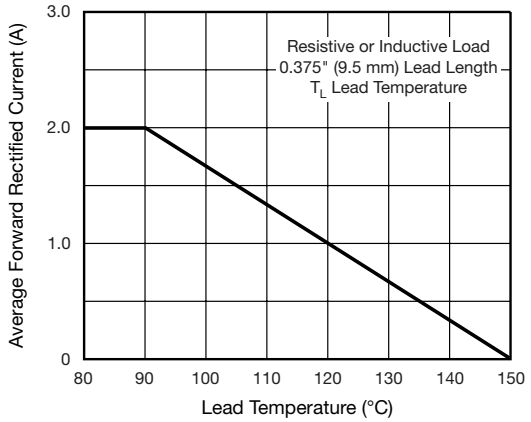

Fig. 1 - Maximum Forward Current Derating Curves

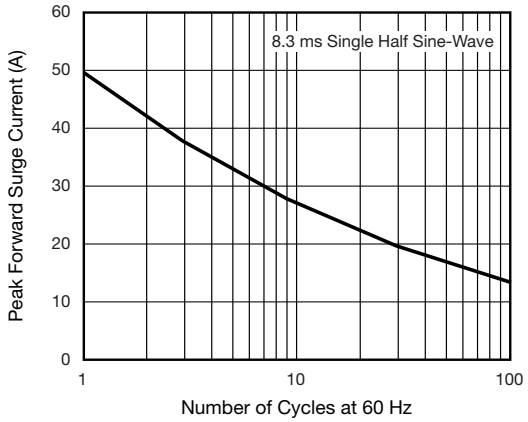

Fig. 3 - Maximum Non-Repetitive Peak Forward Surge Current

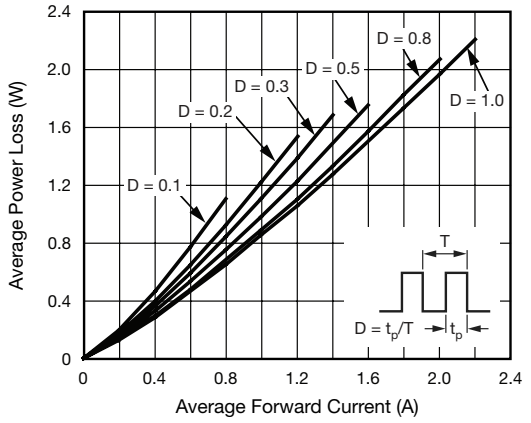

Fig. 2 - Forward Power Loss Characteristics

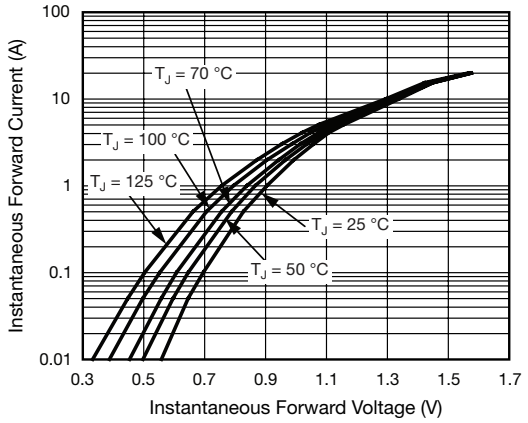

Fig. 4 - Typical Instantaneous Forward Characteristics

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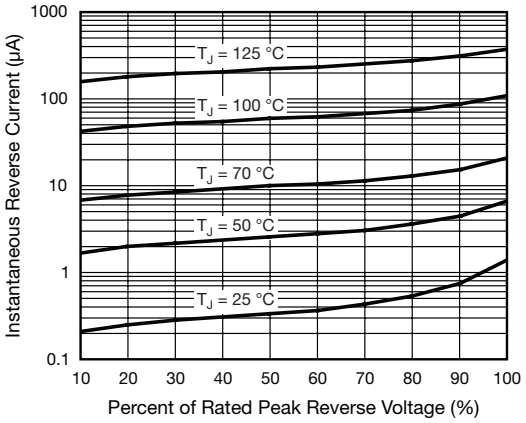


Fig. 5 - Typical Reverse Leakage Characteristics

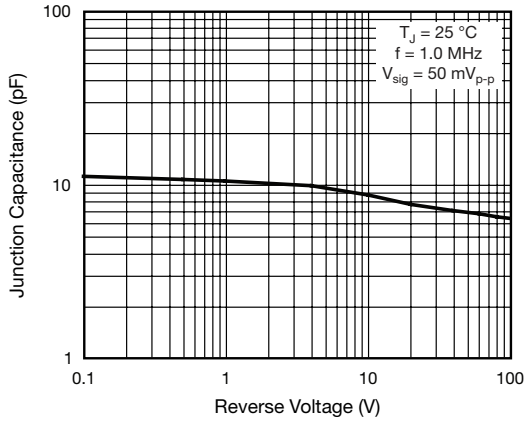
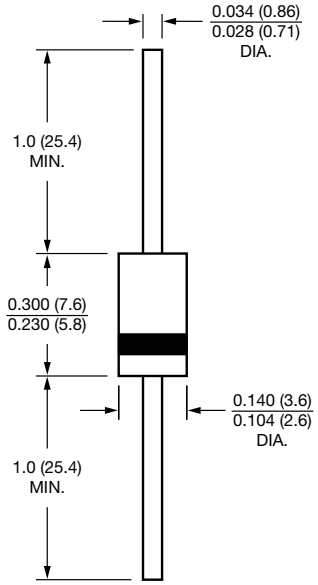


Fig. 6 - Typical Junction Capacitance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-204AC (DO-15)



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