

## Features

- Lead Free Finish/RoHS Compliant (Note1) ("P" Suffix Designates Compliant. See Ordering Information)
- Halogen Free. "Green" Device (Note 2)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Low Switching Losses and High Efficiency
- Low Reverse Leakage
- Ultrafast Soft Recovery Time

## Maximum Ratings

- Operating Junction Temperature Range: -55°C To +175°C
- Storage Temperature Range: -55°C To +175°C
- Thermal Resistance(Note 3): 10°C/W Junction to Case
- Thermal Resistance(Note 4): 25°C/W Junction to Lead
- Thermal Resistance(Note 4): 75°C/W Junction to Ambient

MCC Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
UG3DAFL	UG3D	200V	140V	200V

## Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	3.0A	$T_C=145^\circ\text{C}$
Peak Forward Surge Current	$I_{FSM}$	85A	8.3ms, Half Sine
Maximum Instantaneous Forward Voltage	$V_F$	0.93V 0.78V	$I_F=3.0\text{A}; T_J=25^\circ\text{C}$ $I_F=3.0\text{A}; T_J=125^\circ\text{C}$
Maximum DC Reverse Current At Rated DC Blocking Voltage	$I_R$	2μA 10μA	$T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$
Typical Junction Capacitance	$C_J$	45pF	Measured at 1.0MHz, $V_R=4.0\text{V}$

## Dynamic Recovery Characteristics @ 25°C Unless Otherwise Specified

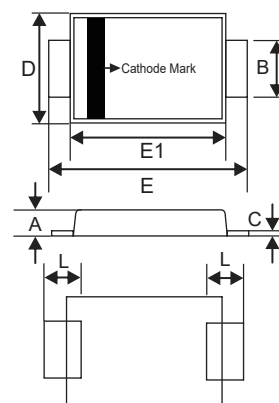
Reverse Recovery Time	$t_{rr}$	25ns(Typ.) 35ns(Max.) 35ns(Typ.)	$I_F=0.5\text{A}; I_R=1.0\text{A}; I_{RR}=0.25\text{A}$
Peak recovery current	$I_{RRM}$	5.0A(Typ.)	$I_F = 3\text{ A } di_F/dt = 200\text{ A}/\mu\text{s}$ $V_R = 200\text{ V}, T_J=25^\circ\text{C}$
Reverse recovery charge	$Q_{rr}$	90nC(Typ.)	

Note:

1. High Temperature Solder Exemptions Applied, See EU Directive Annex Notes 7a.
2. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
3. Mounted on P.C.B With 8 mm x 16 mm Copper Pad Areas.
4. Mounted on P.C.B. With 0.2" x 0.2" (5.0 mm x 5.0 mm) Copper Pad Areas.

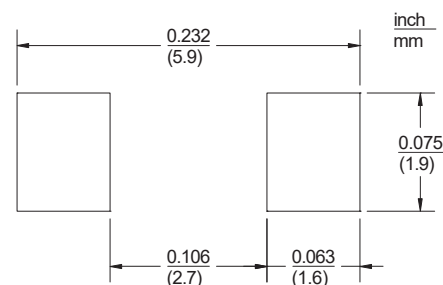
# 3 Amp Surface-Mount Ultrafast Rectifier 200 Volts

## DO-221AC(SMA-FL)



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.035	0.049	0.90	1.25	
B	0.049	0.065	1.25	1.65	
C	0.004	0.016	0.10	0.40	
D	0.089	0.116	2.25	2.95	
E	0.173	0.220	4.40	5.60	
E1	0.126	0.181	3.20	4.60	
L	0.020	0.059	0.50	1.50	

## SUGGESTED SOLDER PAD LAYOUT



## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

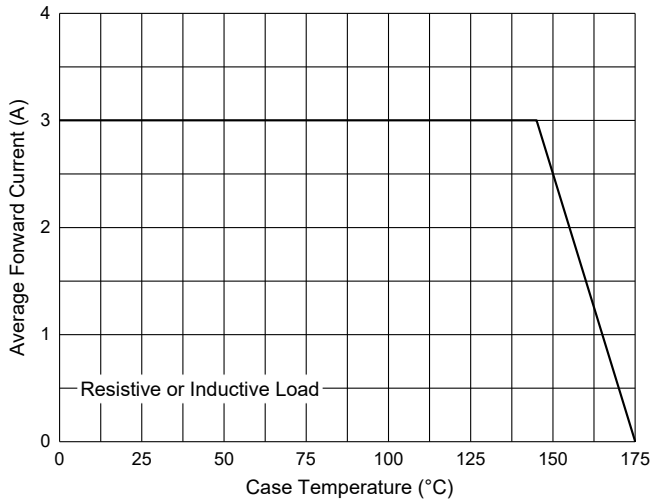


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

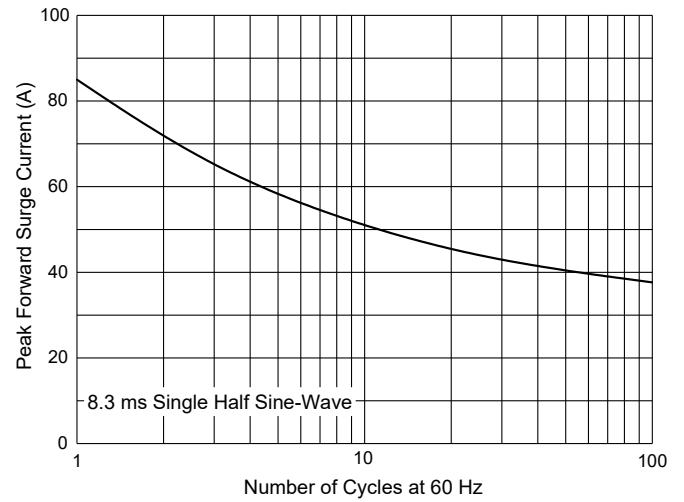


Fig. 3 - Typical Instantaneous Forward Characteristics

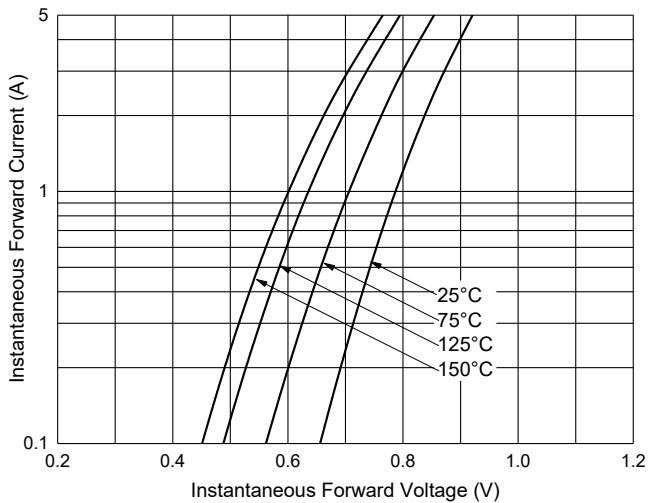


Fig. 4 - Typical Reverse Leakage Characteristics

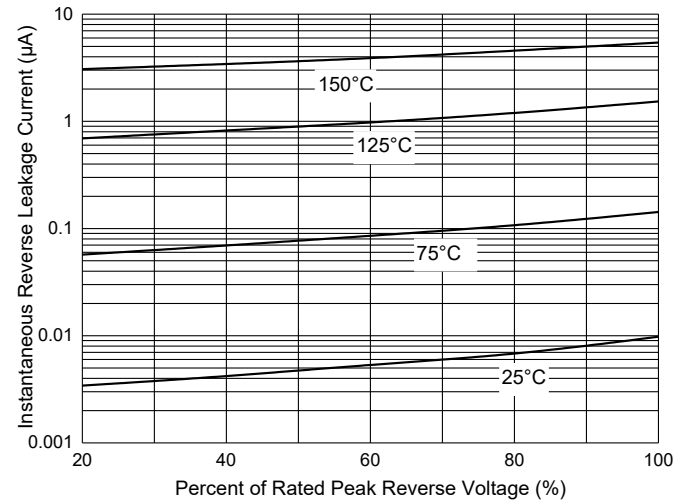


Fig. 5 - Typical Capacitance Characteristics

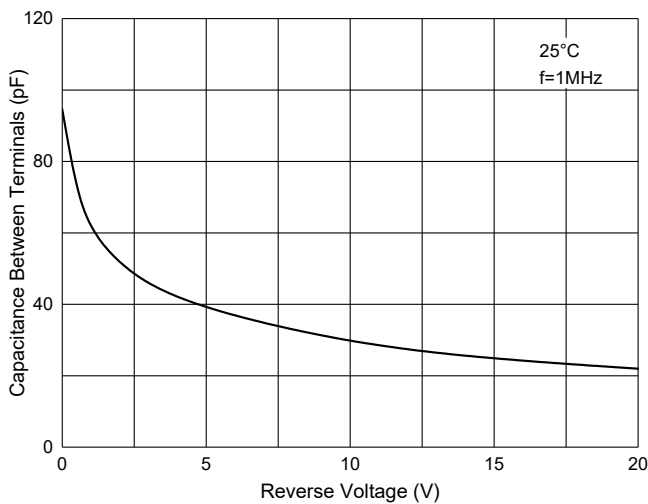
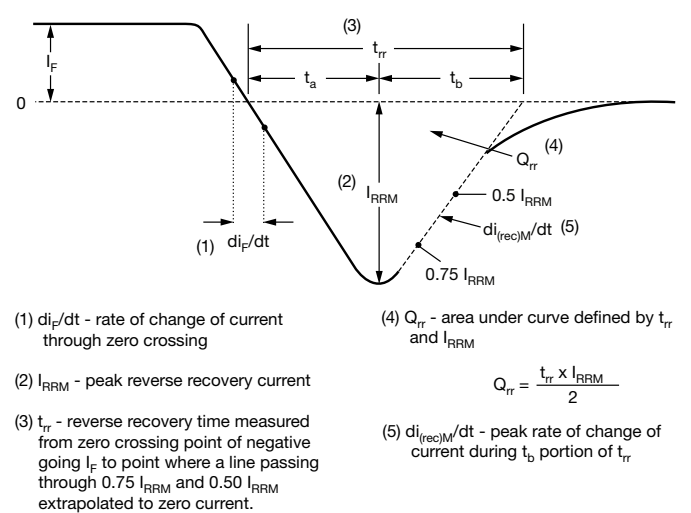


Fig. 6 - Reverse Recovery Waveform and Definitions



## Ordering Information

Device	Packing
UG3DAFL-TP	Tape&Reel: 10Kpcs/Reel

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