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Ultra Fast Recovery Rectifiers



UF3001-HF Thru. UF3008-HF

Voltage: 50 to 1000 V

Current: 3.0 A

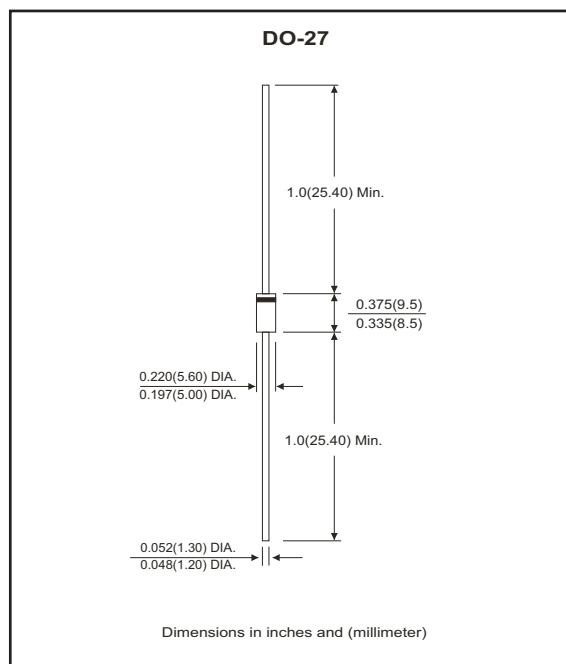
RoHS Device

Features

- Halogen free.
- Low cost construction.
- Ultra fast switching for high efficiency.
- Low reverse leakage current.
- High forward voltage drop.
- High current capability.
- The plastic material carries UL recognition 94V-0

Mechanical data

- Case: JEDEC DO-27 molded plastic .
- Polarity: Color band denotes cathode.
- Lead: Plated axial lead, solderable per MIL-STD-202E, method 208C
- Mounting position: Any
- Weight: 0.04 ounces, 1.1 grams



Electrical Characteristics (at $T_A=25^\circ\text{C}$ unless otherwise noted)

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load derate current by 20%.

Parameter	Symbol	UF3001	UF3002	UF3003	UF3004	UF3005	UF3006	UF3007	UF3008	Unit
		-HF	-HF	-HF	-HF	-HF	-HF	-HF	-HF	
Marking		UF3001	UF3002	UF3003	UF3004	UF3005	UF3006	UF3007	UF3008	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	300	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	210	280	420	560	700	v
Maximum DC blocking voltage	V_{DC}	50	100	200	300	400	600	800	1000	v
Maximum average forward rectified current 0.375"(9.5mm) lead length @ $T_A=55$	$I_{(AV)}$	3.0								A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	125								A
Peak forward voltage at 3.0A DC	V_F	1.0		1.3		1.7				V
Maximum reverse current at rated DC blocking voltage	$T_A=25^\circ\text{C}$	I_R								μA
	$T_A=100^\circ\text{C}$	I_R								μA
Maximum reverse recovery time (Note 1)	t_{rr}	50				75				nS
Typical junction capacitance (Note 2)	C_J	50				30				PF
Typical thermal resistance (Note 3)	$R_{\theta JA}$	20								$^\circ\text{C}/\text{W}$
Operating temperature range	T_J	-55 ~ +125								$^\circ\text{C}$
Storage temperature range	T_{STG}	-55 ~ +150								$^\circ\text{C}$

NOTES:

1. Measured with $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$
2. Measured at 1.0MHz and applied reverse voltage of 4.0Volts.
3. Thermal resistance junction to ambient.

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Rating and Characteristic Curves (UF3001-HF Thru. UF3008-HF)

Fig.1 Forward Current Derating Curve

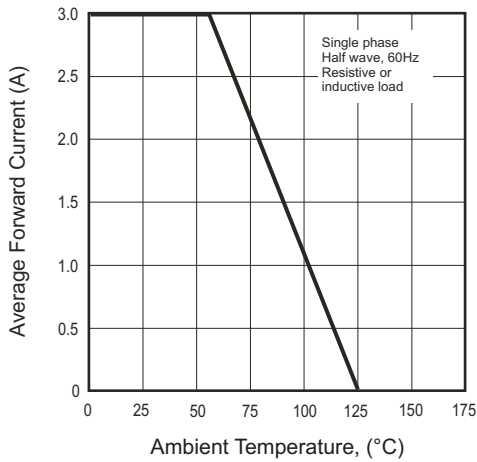


Fig.2 Maximum Non-Repetitive Surge Current

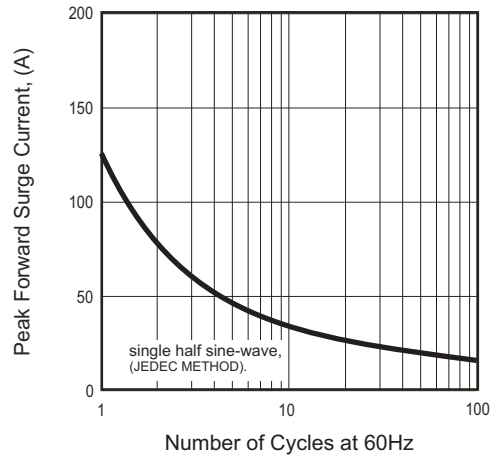


Fig.3 Typical Junction Capacitance

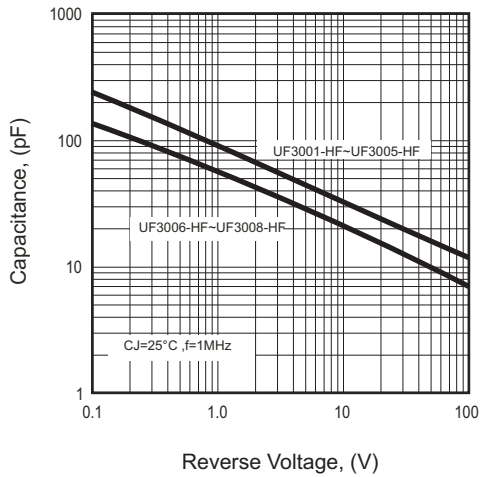
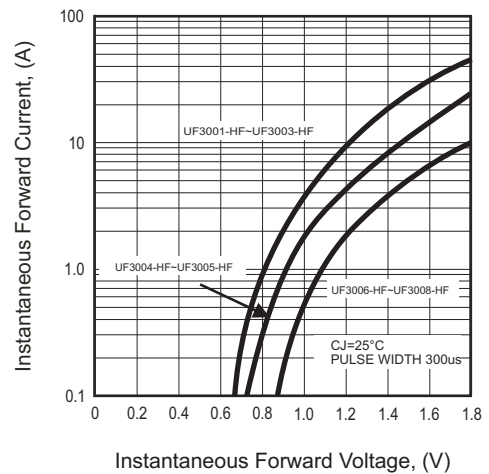


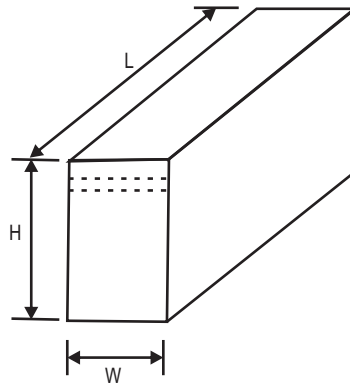
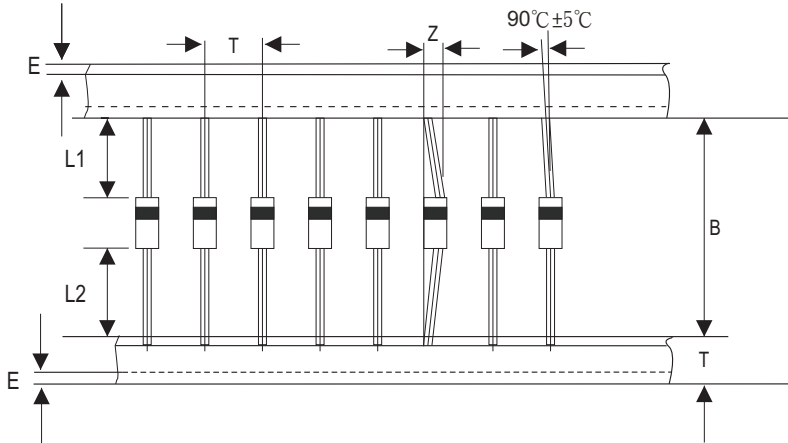
Fig.4 Typical Forward Characteristics



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Taping Specification For Axial Lead Diodes



DO-27	SYMBOL	A	B	Z	T	E	L1-L2	L
	(mm)	10.0 ± 0.50	52.4 ± 1.5	1.2 (max)	6.0 ± 0.4	0.8 (max)	1.0 (max)	255.0 ± 5.0
	(inch)	0.394 ± 0.020	2.063 ± 0.059	0.047 (max)	0.236 ± 0.016	0.032 (max)	0.040 (max)	10.039 ± 0.197

DO-27	SYMBOL	W	H				
	(mm)	78.0 ± 5.0	95.0 ± 5.0				
	(inch)	3.071 ± 0.197	3.740 ± 0.197				

Standard Package

Case Type	BOX		
	BOX (EA)	Box / Carton	CARTON (EA)
DO-27	1200	10	12000