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R3000F
High Voltage Rectifier


R3000F Available in BULK or REEL

Abstract

The R3000F is a member of a line of high voltage rectifiers in a DO-41 molded plastic package style. The 3000 volt rectifier boasts a low leakage current with higher dopant levels than a standard rectifier. This product has a guaranteed high surge rating up to 30 amperes before stress-induced factors arise.

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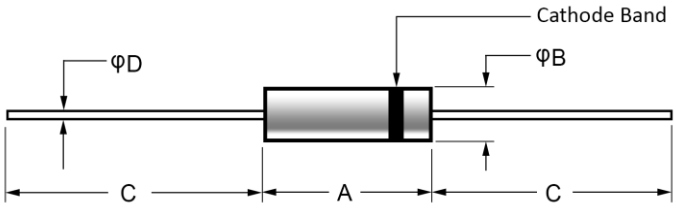
Features

- High Voltage of 3000V with Low Leakage
- Surge Rating of 30A
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Plastic Package – UL Recognition Flammability Classification 94V-0
- Approx. Weight: 0.35 grams
- Mounting Position: Any
- Marking: Type Number

Mechanical Specifications

DO-41 Plastic		
Dim	**Min**	**Max**
A	4.06	5.21
B	2.00	2.72
C	25.40	--
D	0.71	0.884
All Dimensions in mm		



Maximum Ratings and Electrical Characteristics @ Ta = 25°C unless otherwise specified

Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	3000	V
RMS Reverse Voltage	$V_{R(RMS)}$	2100	V
Average Rectified Output Current (Note 1) @ T_L = 55°C	I_O	200	mA
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30	A
Forward Voltage @ I_F = 500mA @ I_F = 200mA	V_{FM}	-- 6.0	V
Peak Reverse Current at Rated DC Blocking Voltage	I_{RM}	5.0	μA
Typical Junction Capacitance (Note 2)	C_j	6.0	pF
Typical Reverse Recovery Time (Note 3)	t_{rr}	500	ns
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +125	°C

Notes:
1. Valid provided that leads are kept at ambient temperature at a distance of 9.5mm from the case.
2. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.
3. Measured with I_F = 0.5A, I_R = -1A, I_{rr} = -0.25A.

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Aerospace Mgmt. Sys. Cert.
AS/EN/JISQ9100:2009 Rev. C
ISO9001:2008
Cert No. 45325

Characteristic Curves

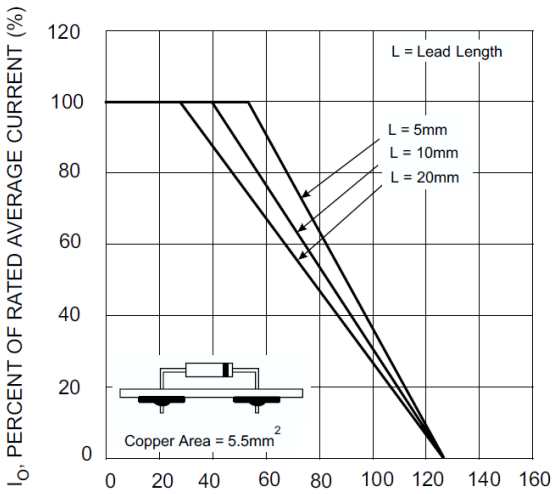

Fig. 1 Current Derating for Various Lead Lengths

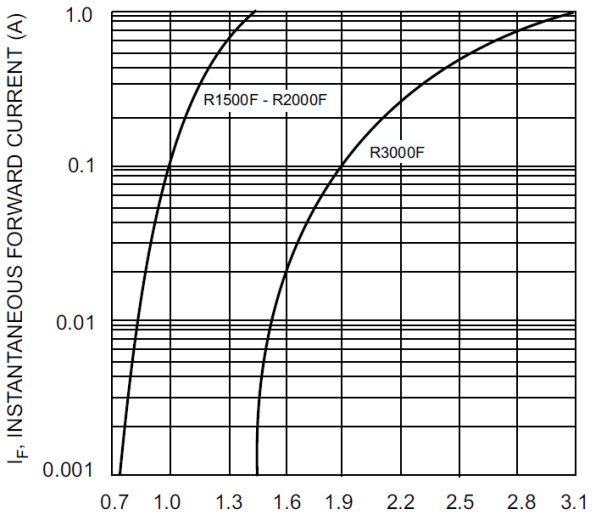

Fig. 2 Typical Forward Characteristics

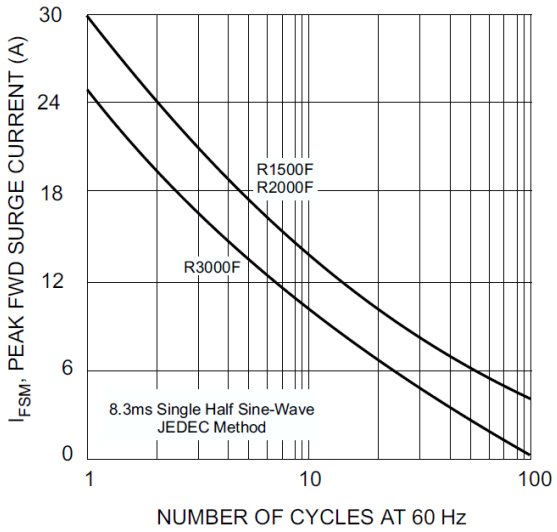

Fig. 3 Peak Fwd Surge Current vs # of Cycles @ 60 Hz

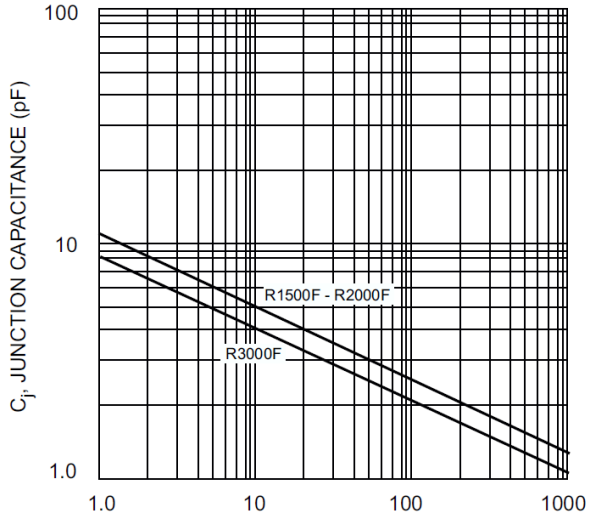

Fig. 4 Typical Junction Capacitance

Product Family

I_O A	Products by Breakdown Voltage (V_{RRM} V)							
	1200	**1500**	**1800**	**2000**	**2500**	**3000**	**4000**	**5000**
0.5	R1200	R1500	R1800	R2000	R2500	R3000	R4000	R5000
0.2	R1200F	R1500F	R1800F	R2000F	R2500F	**R3000F**	R4000F	R5000F
	5000	**8000**	**10000**	**12000**	**14000**	**15000**	**16000**	**17000**
0.35	HVM5	HVM8	HVM10	HVM12	HVM14	HVM15	HVM16	HVM17
0.75	HVP5	HVP8	HVP10	HVP12	HVP14	HVP15	HVP16	HVP17

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