



SYNSEMI SEMICONDUCTOR

R1200F thru R2000F

0.2 to 0.5 Amp. High Voltage Fast Recovery Rectifiers
Voltage Range 1200 to 2000 Volts Forward Current 0.2 to 0.5 Ampere

Features

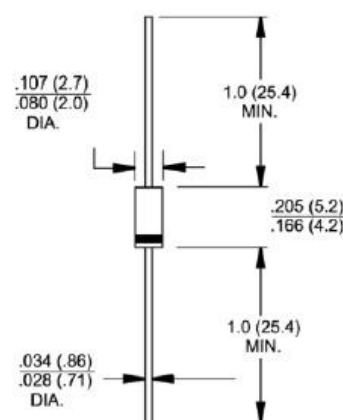
- ◆ Fast switching
- ◆ Low leakage
- ◆ High current capability
- ◆ High surge capability
- ◆ High reliability



DO-204AL (DO-41)

Mechanical Data

- ◆ Case: Molded plastic DO-204AL (DO-41)
- ◆ Epoxy: UL 94V-O rate flame retardant
- ◆ Lead: MIL-STD-202E method 208C guaranteed
- ◆ Mounting position: Any
- ◆ Weight: 0.012 ounce, 0.335 gram



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Parameter	Symbols	R1200F	R1500F	R1800F	R2000F	Units
Maximum repetitive peak reverse voltage	V_{RRM}	1200	1500	1800	2000	Volts
Maximum RMS voltage	V_{RMS}	840	1050	1260	1400	Volts
Maximum DC blocking voltage	V_{DC}	1200	1500	1800	2000	Volts
Maximum average forward rectified current at $T_A=50^\circ\text{C}$	$I_{F(AV)}$	500			200	mAmps
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30.0				Amps
Maximum instantaneous forward voltage at 0.5A/0.2A DC	V_F	2.5			4.0	Volts
Maximum DC reverse current at rated DC blocking voltage @ $T_A=25^\circ\text{C}$	I_R	5.0				μA
Maximum full load reverse current average, full cycle .375" (9.5mm) lead length at $T_A=55^\circ\text{C}$	$I_{R(AV)}$	100				μA
Maximum reverse recovery time (Note 1)	t_r	500				ns
Operating and storage temperature range	T_J, T_{STG}	-65 to +175				$^\circ\text{C}$

Notes: 1. Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$

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RATINGS AND CHARACTERISTIC CURVES

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

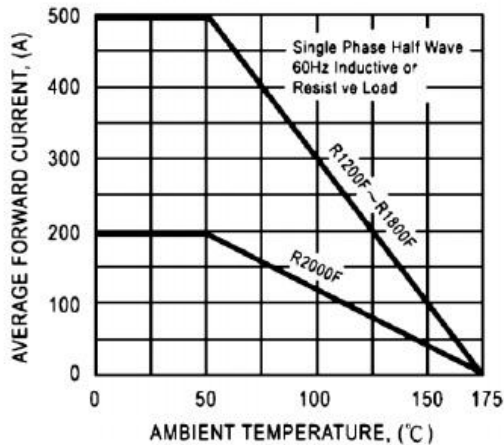


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

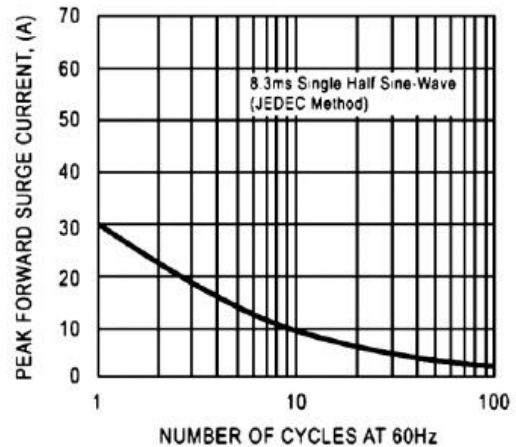
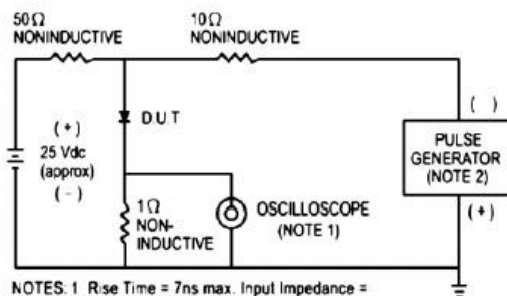


FIG. 3 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



- NOTES: 1 Rise Time = 7ns max. Input Impedance = 1 megohm, 22 pF.
2 Rise Time = 10ns max. Source Impedance = 50 ohms

