



®

R2500F THRU R5000F

HIGH VOLTAGE FAST RECOVERY RECTIFIER

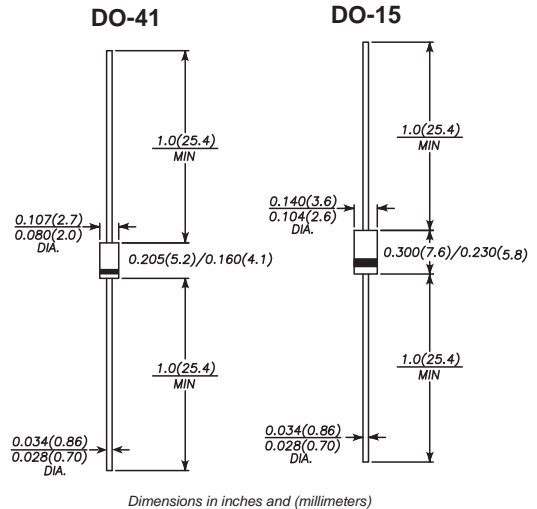
Reverse Voltage - 2500 to 5000 Volts Forward Current - 0.2 Ampere

FEATURES

The plastic package carries Underwriters Laboratory
 Flammability Classification 94V-0
 Construction utilizes void-free
 molded plastic technique
 Low reverse leakage
 High forward surge current capability
 High temperature soldering guaranteed:
 260°C/10 seconds, 0.375" (9.5mm) lead length,
 5 lbs. (2.3kg) tension

MECHANICAL DATA

Case: JEDEC DO-41/DO-15 molded plastic body
Terminals: Plated axial leads, solderable per MIL-STD-750,
 Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.012 ounce, 0.33 grams (DO-41)
 0.014 ounce, 0.40 grams (DO-15)



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

	SYMBOLS	R2500F	R3000F	R4000F	R5000F	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	2500	3000	4000	5000	VOLTS
Maximum RMS voltage	V_{RMS}	1750	2100	2800	3500	VOLTS
Maximum DC blocking voltage	V_{DC}	2500	3000	4000	5000	VOLTS
Maximum average forward rectified current 0.375" (9.5mm) lead length (see fig.1)	$I_{(AV)}$	0.2				Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30.0				Amps
Maximum instantaneous forward voltage at 0.2 A	V_F	4.0	5.0	6.5		Volts
Maximum DC reverse current $T_A=25^\circ C$ at rated DC blocking voltage $T_A=100^\circ C$	I_R	5.0 50.0				μA
Maximum reverse recovery time (NOTE 1)	t_{rr}	500				ns
Typical junction capacitance (NOTE 2)	C_J	15.0				pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	50.0				$^\circ C/W$
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150				$^\circ C$

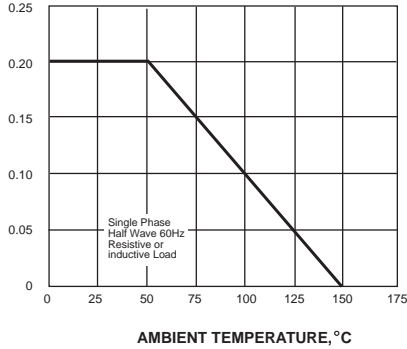
Note: 1. Reverse recovery condition $I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$
 2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
 3. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted



RATINGS AND CHARACTERISTIC CURVES R2500F THRU R5000F

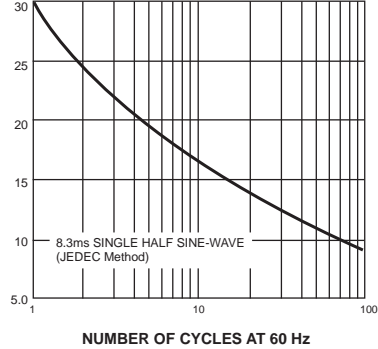
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



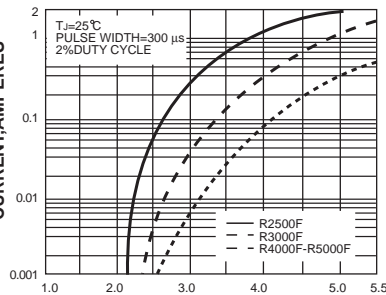
*PEAK FORWARD SURGE CURRENT, AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



INSTANTANEOUS FORWARD CURRENT, AMPERES

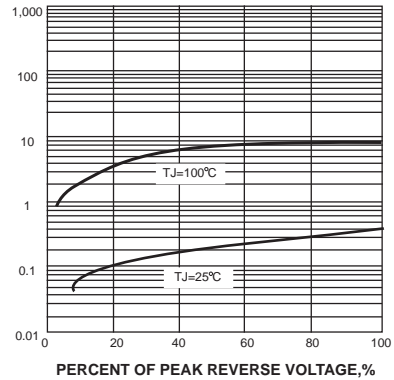
FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS FORWARD VOLTAGE, VOLTS

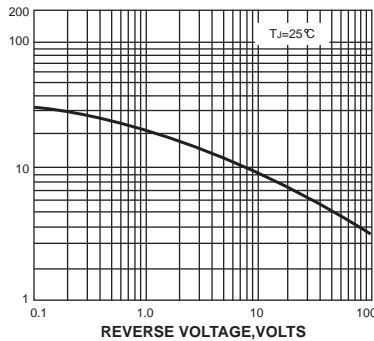
INSTANTANEOUS REVERSE CURRENT, MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

