



# HIGH VOLTAGE FAST RECOVERY RECTIFIER

R2500F THRU R5000F

VOLTAGE RANGE  
CURRENT

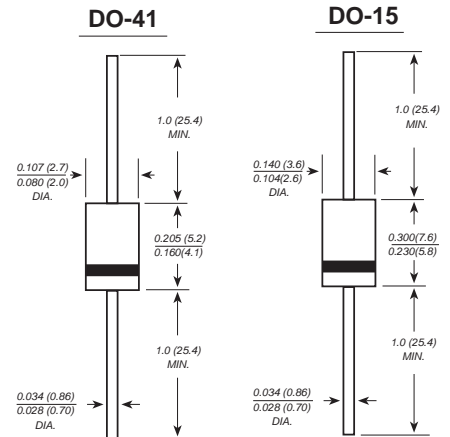
2500 to 5000 Volts  
0.5 Ampere

## 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:  
250°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)



Dimensions in inches and (millimeters)

## 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 $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	$I_R$	5.0 50.0				$\mu\text{A}$
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				$^\circ\text{C/W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-65 to +150				$^\circ\text{C}$

- Note:** 1. Reverse recovery condition  $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$   
 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



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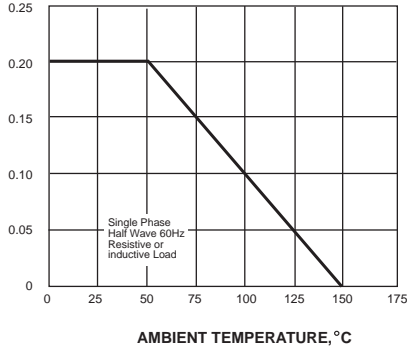
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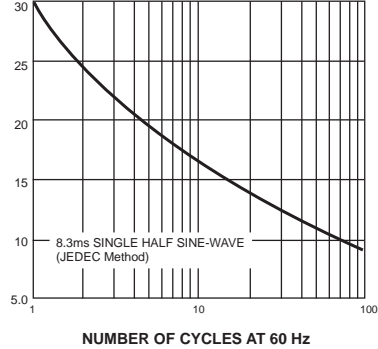
AVERAGE FORWARD RECTIFIED CURRENT,  
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



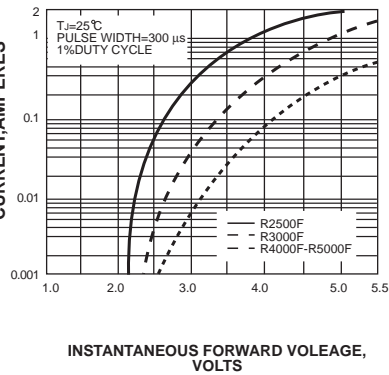
PEAK FORWARD SURGE CURRENT,  
AMPERES

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



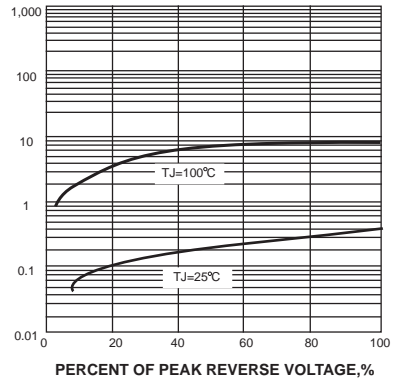
INSTANTANEOUS FORWARD CURRENT,AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



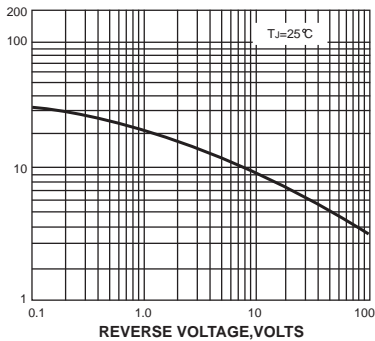
INSTANTANEOUS REVERSE CURRENT,  
MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,  
°C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

