

STPR320

Super Fast Rectifiers

VOLTAGE RANGE: 200 V

CURRENT: 3.0 A



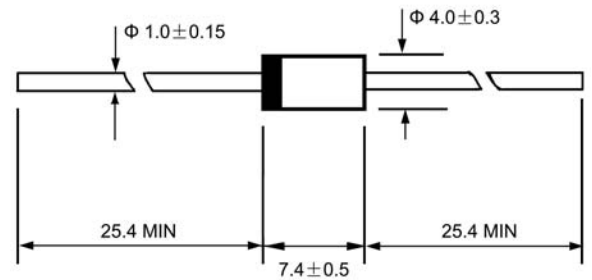
Features

- ◇ Low cost
- ◇ Diffused junction
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with freon, alcohol, Isopropanol and similar solvents

Mechanical Data

- ◇ Case: JEDEC DO-15B, molded plastic
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.024 ounces, 0.68 grams
- ◇ Mounting: Any

DO - 15B



Dimensions in 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, derate by 20%.

		STPR320	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	200	V
Maximum RMS voltage	V_{RMS}	140	V
Maximum DC blocking voltage	V_{DC}	200	V
Maximum average forward rectified current 9.5mm lead length, @ $T_A=75^\circ\text{C}$	$I_{F(AV)}$	3.0	A
Peak forward surge current 10ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ\text{C}$	I_{FSM}	30.0	A
Maximum instantaneous forward voltage @ 3.0 A	V_F	0.99	V
Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=100^\circ\text{C}$	I_R	10.0 100.0	μA
Maximum reverse recovery time (Note1)	t_{rr}	35	ns
Typical junction capacitance (Note2)	C_J	95	pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	20	$^\circ\text{C/W}$
Operating junction temperature range	T_J	- 55 ----- + 150	$^\circ\text{C}$
Storage temperature range	T_{STG}	- 55 ----- + 150	$^\circ\text{C}$

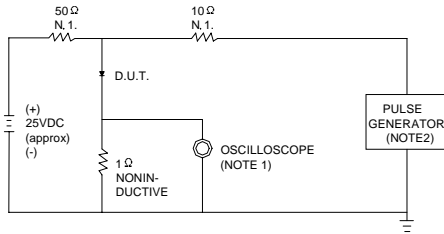
NOTE: 1. Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $I_{rr}=0.25\text{A}$.

2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

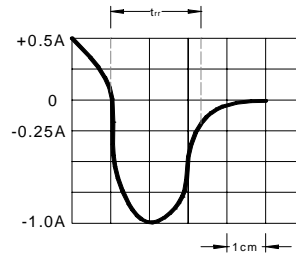
3. Thermal resistance from junction to ambient.

Ratings AND Characteristic Curves

FIG.1 – TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES: 1. RISE TIME = 7ns MAX INPUT IMPEDANCE = 1MΩ . 22pF.
 2. RISE TIME = 10ns MAX. SOURCE IMPEDANCE = 50 Ω.



SET TIME BASE FOR 10 ns/cm

FIG.2 – FORWARD DERATING CURVE

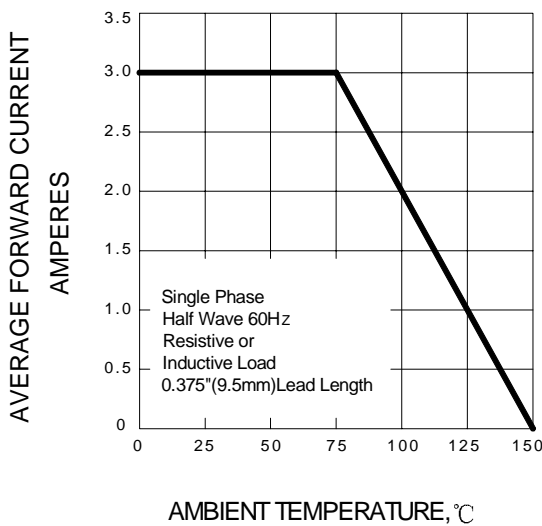


FIG.3 – TYPICAL FORWARD CHARACTERISTIC

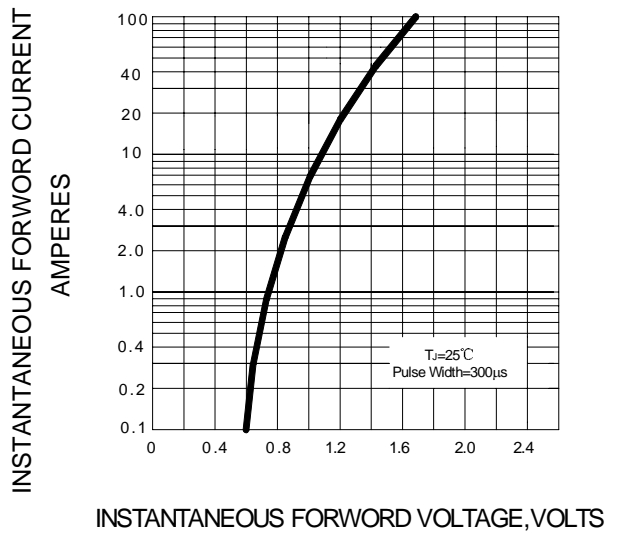


FIG.4 – TYPICAL JUNCTION CAPACITANCE

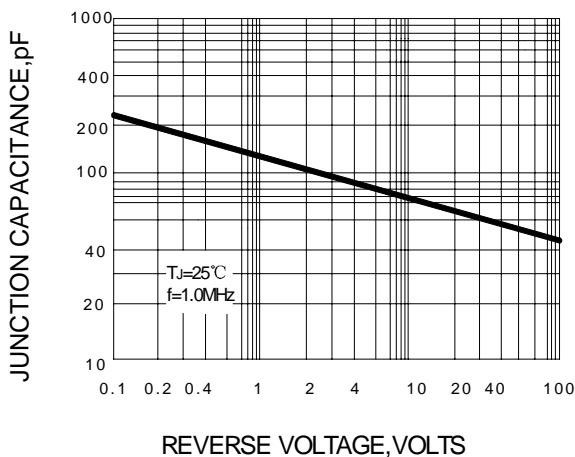


FIG.5 – PEAK FORWARD SURGE CURRENT

