

SUPER FAST RECTIFIERS

VOLTAGE RANGE: 50 --- 600 V
CURRENT: 5.0 A

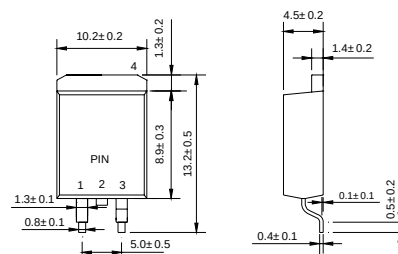
FEATURES

- ◇ Low cost
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with alcohol, Isopropanol and similar solvents
- ◇ The plastic material carries U/L recognition 94V-0

MECHANICAL DATA

- ◇ Case: JEDEC D²PAK, molded plastic
- ◇ Terminals: Solderable per MIL-STD-750, Method 2026
- ◇ Polarity: As marked
- ◇ Weight: 0.087 ounces, 2.2 grams
- ◇ Mounting position: Any

D²PAK



Dimensions in millimeters

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

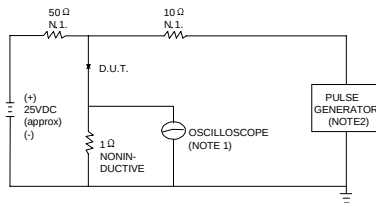
Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate by 20%.

		USF 505B	USF 510B	USF 515B	USF 520B	USF 540B	USF 560B	UNITS
Maximum recurrent peak reverse voltage	V _{RRM}	50	100	150	200	400	600	V
Maximum RMS voltage	V _{RMS}	35	70	105	140	280	420	V
Maximum DC blocking voltage	V _{DC}	50	100	150	200	400	600	V
Maximum average forw ard rectified current @T _C =100°C	I _{F(AV)}	5.0						A
Peak forw ard surge current 8.3ms single half-sine-w ave superimposed on rated load @T _J =125°C	I _{FSM}	60						A
Maximum instantaneous forw ard voltage @ 5.0A	V _F	0.975				1.3	1.5	V
Maximum reverse current @T _A =25°C at rated DC blocking voltage @T _A =150°C	I _R	5.0 250				10.0 500		μ A
Maximum reverse recovery time (Note1)	t _{rr}	25				50		ns
Operating junction temperature range	T _J	- 55 ----- + 150						°C
Storage temperature range	T _{STG}	- 55 ----- + 150						°C

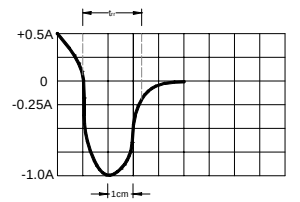
NOTE: 1. Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $t_{rr}=0.25\text{A}$.

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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 10/20 ns/cm

FIG.2 – TYPICAL FORWARD CHARACTERISTIC

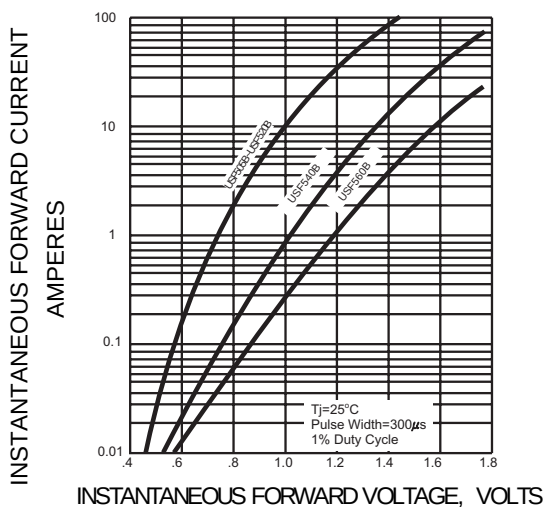


FIG.3 – PEAK FORWARD SURGE CURRENT

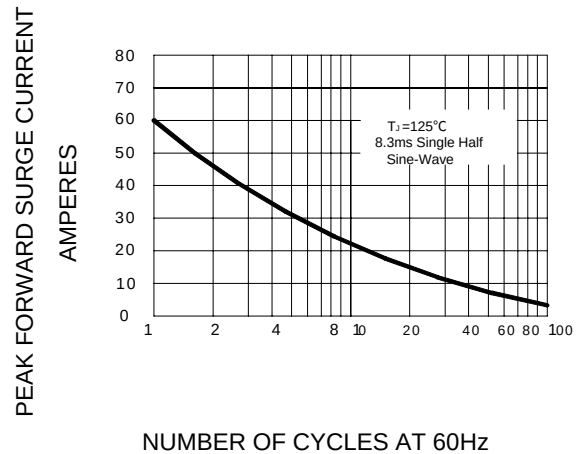


FIG.4 - FORWARD DERATING CURVE

