

GLASS PASSIVATED SUPER FAST RECTIFIER
VOLTAGE RANGE 50 to 200 Volts CURRENT 2.0 Ampere

FEATURES

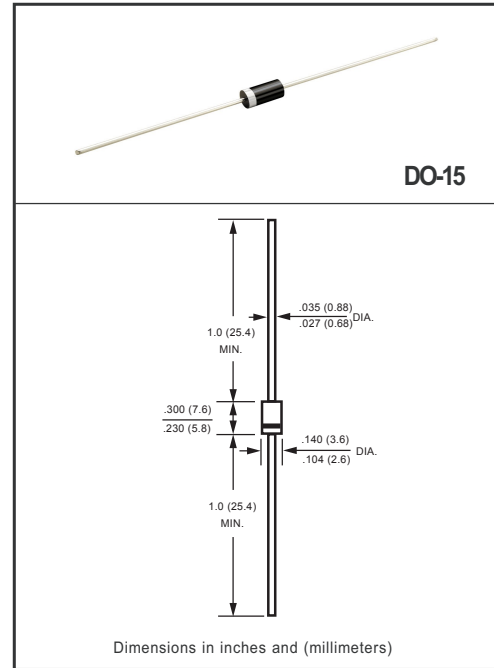
- * Glass passivated device
- * For surface mounted applications
- * Ultrafast recovery times for high efficiency
- * Low forward voltage, low power loss
- * Low leakage current

MECHANICAL DATA

- * Epoxy: Device has UL flammability classification 94V-0
- * Metallurgically bonded construction
- * Mounting position: Any
- * Weight: 0.40 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.



MAXIMUM RATINGS (@ TA=25 °C unless otherwise noted)

RATINGS	SYMBOL	USF21	USF22	USF23	USF24	UNITS
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	150	200	Volts
Maximum RMS Voltage	V _{RMS}	35	70	105	140	Volts
Maximum DC Blocking Voltage	V _{DC}	50	100	150	200	Volts
Maximum Average Forward Rectified Current at T _A = 55°C	I _O	2.0				Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I _{FSM}	75				Amps
Current Squared Time	I ² T	23.3				A ² /Sec
Typical Thermal Resistance (Note 1)	R _{θJA}	45				°C/W
Typical Thermal Resistance (Note 1)	R _{θJL}	12				°C/W
Typical Junction Capacitance (Note 2)	C _J	18				pF
Operating Temperature Range	T _J	150				°C
Storage Temperature Range	T _{STG}	-55 to + 150				°C

ELECTRICAL CHARACTERISTICS (@TA=25 °C unless otherwise noted)

CHARACTERISTICS	SYMBOL	USF21	USF22	USF23	USF24	UNITS
Maximum Instantaneous Forward Voltage at 2.0A DC	V _F	0.95				Volts
Maximum Average Reverse Current at Rated DC Blocking Voltage	@T _A = 25°C	5				μA
	@T _A = 100°C	350				μA
Maximum Reverse Recovery Time (Note 4)	t _{rr}	20				nSec

- NOTES : 1. Thermal Resistance :At 9.5mm lead length, PCB mounted.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
3. " ROHS compliant"
4. Test Conditions: I_F= 0.5A, I_R= -1.0A, I_{RR}= -0.25A.

RATING AND CHARACTERISTICS CURVES (USF21 THRU USF24)

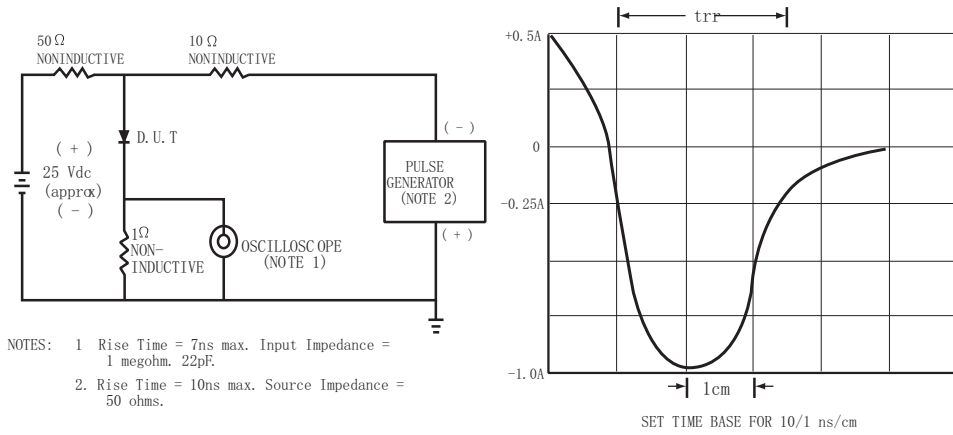


FIG. 1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

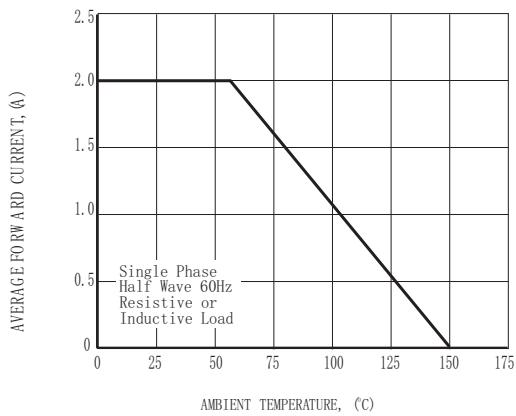


FIG. 2 TYPICAL FORWARD CURRENT DERATING CURVE

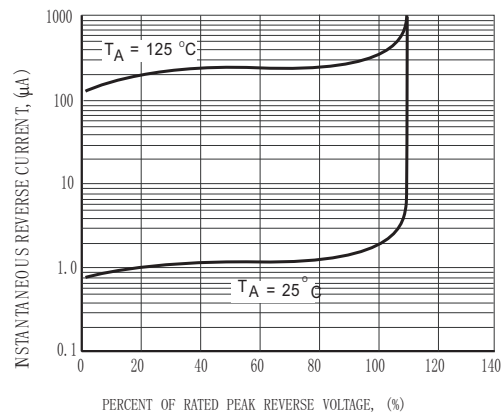


FIG. 3 TYPICAL REVERSE CHARACTERISTICS

RATING AND CHARACTERISTICS CURVES (USF21 THRU USF24)

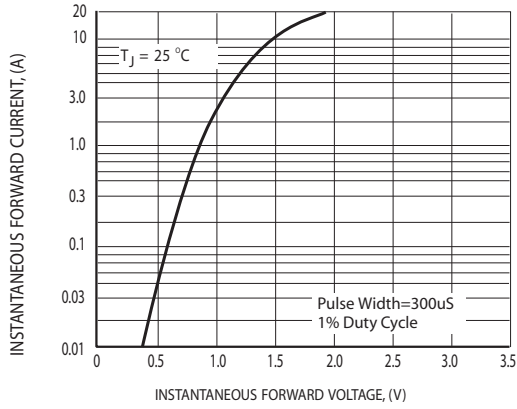


FIG.4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

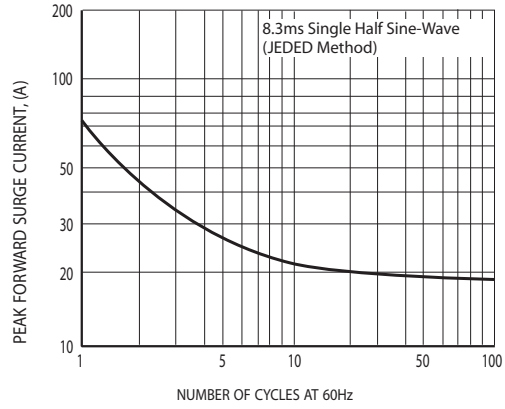


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

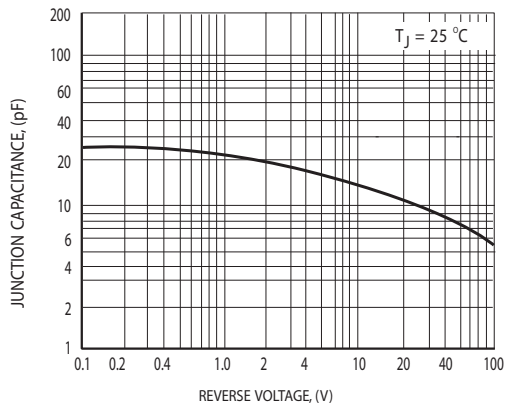
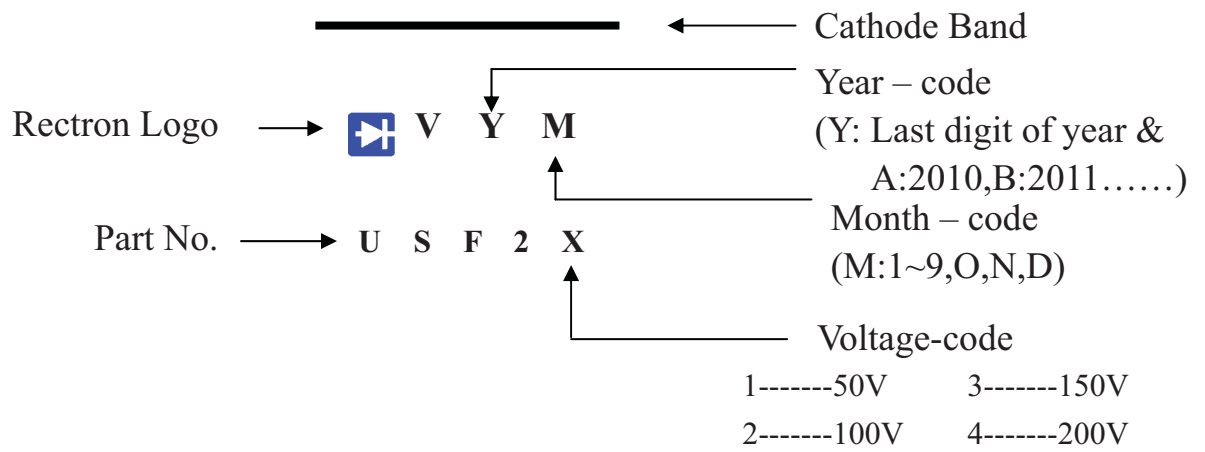


FIG.6 TYPICAL JUNCTION CAPACITANCE

Marking Description



PACKAGING OF DIODE AND BRIDGE RECTIFIERS

BULK PACK

PACKAGE	PACKING CODE	EA PER BOX	INNER BOX SIZE (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
DO-15	-B	500	194*84*21	415*220*255	25,000	12.74

REEL PACK

PACKAGE	PACKING CODE	EA PER REEL	EA PER INNER BOX	COMPONENT SPACE (mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
DO-15	-T	4,000	4,000	5.0	52	330	355*350*335	16,000	10.05

AMMO PACK

PACKAGE	PACKING CODE	REEL (EA)	COMPONENT SPACE(mm)	TAPE SPACE (mm)	BOX SIZE (mm)	CARTON SIZE(mm)	CARTON (EA)	GROSS WEIGHT (Kg)
DO-15	-F	1,500	5.0	52	255*73*100	400*268*225	15,000	8.8