

GLASS PASSIVATED SUPER FAST RECTIFIER

VOLTAGE RANGE 50 to 200 Volts CURRENT 1.0 Ampere

FEATURES

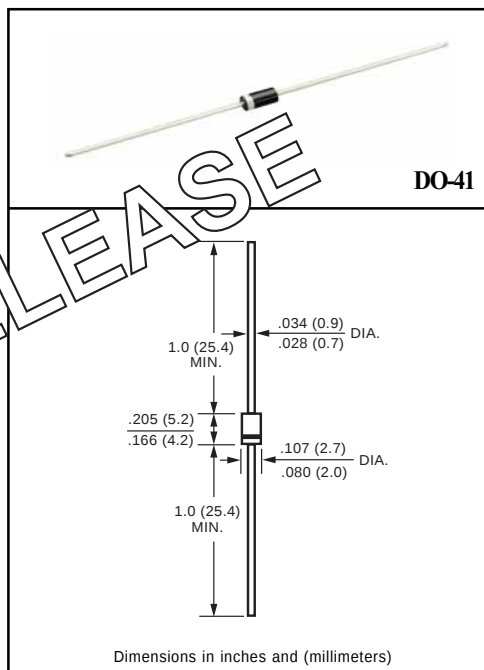
- * High reliability
- * Low leakage
- * Low forward voltage
- * High current capability
- * Super fast switching speed
- * High surge capability
- * Good for switching mode circuit

MECHANICAL DATA

- * Case: Molded plastic
- * Epoxy: Device has UL flammability classification 94V-0
- * Lead: MIL-STD-202E method 208C guaranteed
- * Mounting position: Any
- * Weight: 0.33 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.
For capacitive load, derate current by 20%.



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

RATINGS	SYMBOL	USF11	USF12	USF13	USF14	UNITS
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	150	200	Volts
Maximum RMS Volts	VRMS	35	70	105	140	Volts
Maximum DC Blocking Voltage	VDC	50	100	150	200	Volts
Maximum Average Forward Current at TA = 55°C	IO	1.0				Amps
Peak Forward Surge Current IFM (surge):8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	IFSM	30				Amps
Typical Junction Capacitance (Note 2)	CJ	7				pF
Operating and Storage Temperature Range	TJ, TSTG	-55 to + 150				°C

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

CHARACTERISTICS		SYMBOL	USF11	USF12	USF13	USF14	UNITS
Maximum Forward Voltage at 1.0A DC		V _F	0.92				Volts
Maximum DC Reverse Current	@T _A = 25°C	I _R	5.0				uAmps
at Rated DC Blocking Voltage	@T _A =100°C		100				
Maximum Reverse Recovery Time (Note 1)		t _{rr}	20				nSec

NOTES : 1. Test Conditions: IF=0.5A, IR=-1.0A, IRR=-0.25A.

2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

2002-4

RATING AND CHARACTERISTIC CURVES (USF11 THRU USF14)

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

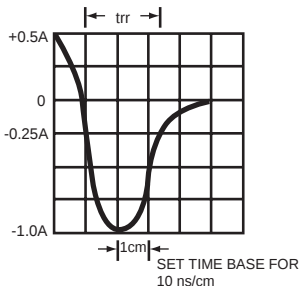
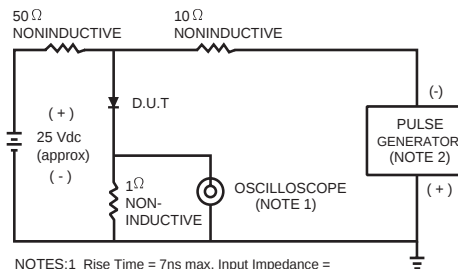


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

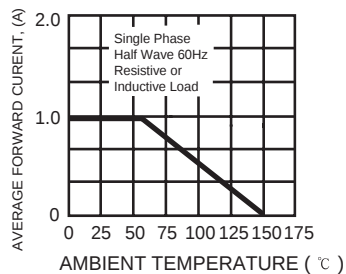


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

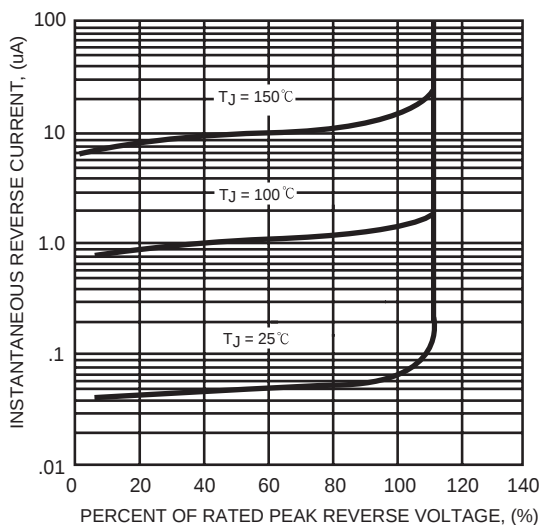


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

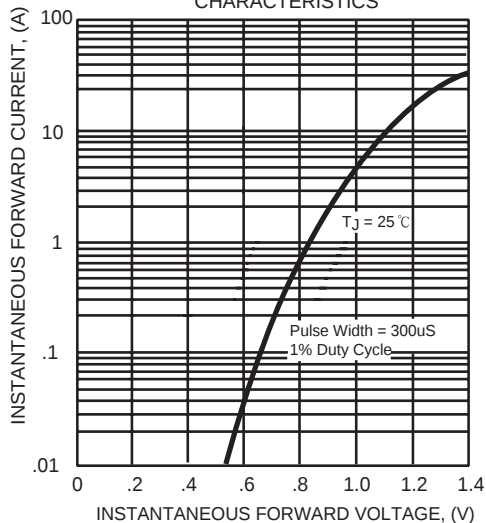


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

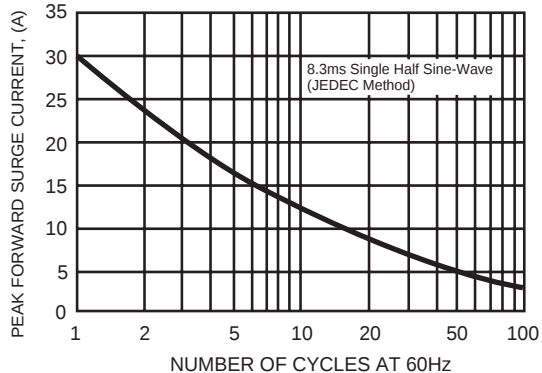
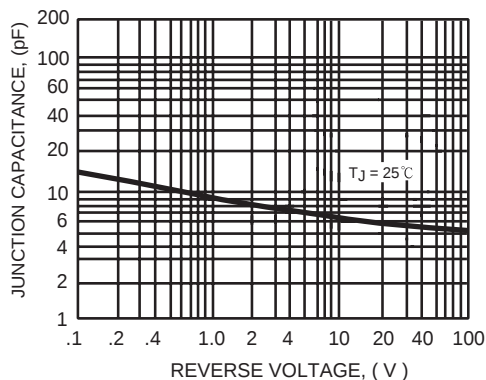


FIG. 6 - TYPICAL JUNCTION CAPACITANCE



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