RECTRON
SEMICONDUCTOR
TECHNICAL SPECIFICATION

USF31 THRU USF34

GLASS PASSIVATED ULTRAFAST RECTIFIER

VOLTAGE RANGE 50 to 200 Volts CURRENT 3.0 Amperes

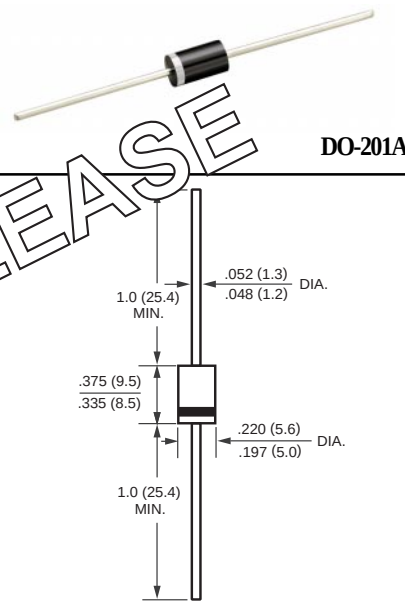
FEATURES

* 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-O
* Lead: MIL-STD-202E method 208C guaranteed
* Mounting position: Any
* Weight: 1.18 grams

NEW RELEASE



Dimensions in inches and (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 current by 20%.

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

RATINGS	SYMBOL	USF31	USF32	USF33	USF34	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	150	200	Volts
Maximum RMS Volts	V_{RMS}	35	70	105	140	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	Volts
Maximum Average Forward Current at T_A = 55°C	I_O	3.0				Amps
Peak Forward Surge Current I_{FM} (surge):8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	125				Amps
Typical Junction Capacitance (Note 2)	C_J	20				pF
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to + 150				°C

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

CHARACTERISTICS		SYMBOL	USF31	USF32	USF33	USF34	UNITS
Maximum Forward Voltage at 3.0A DC		V_F	0.95				Volts
Maximum DC Reverse Current	@T_A = 25°C	I_R	10				uAmps
at Rated DC Blocking Voltage	@T_A =100°C		500				
Maximum Reverse Recovery Time (Note 1)		trr	20				nSec

NOTES : 1. Test Conditions: I_F=0.5A, I_R=-1.0A, I_{RR}=-0.25A.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

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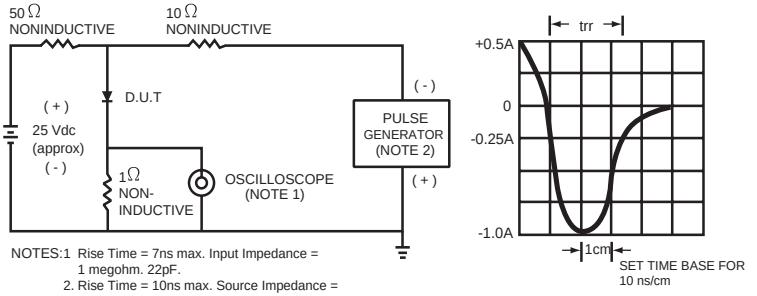
RATING AND CHARACTERISTIC CURVES (USF31 THRU USF34)

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



NOTES:1 Rise Time = 7ns max. Input Impedance = 1 megohm. 22pF.
2. Rise Time = 10ns max. Source Impedance = 50 ohms.

FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

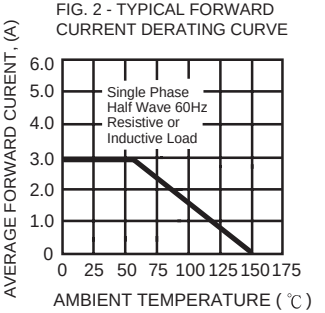


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

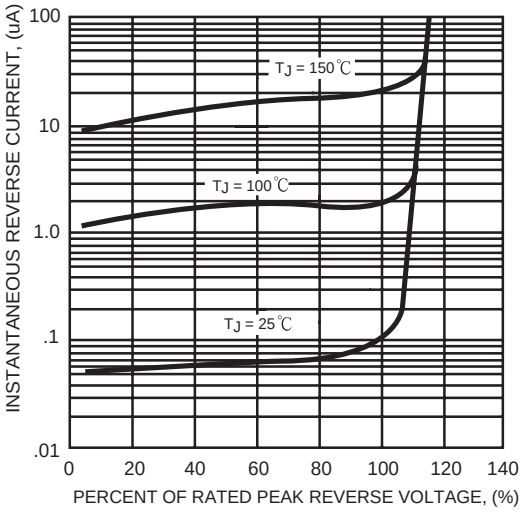


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

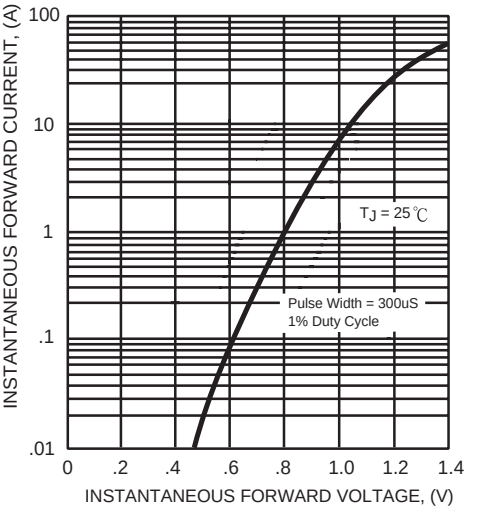


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

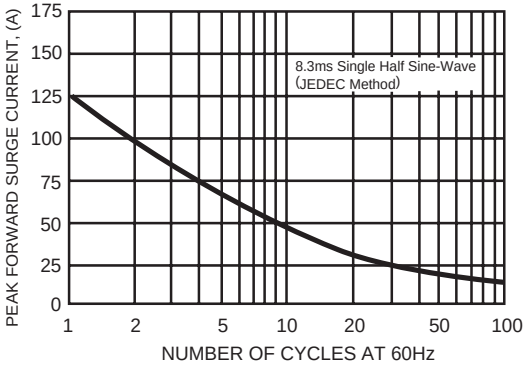


FIG. 6 - TYPICAL JUNCTION CAPACITANCE