RECTRON
SEMICONDUCTOR
TECHNICAL SPECIFICATION

USF31 THRU USF34

GLASS PASSIVATED SUPER FAST RECTIFIER

VOLTAGE RANGE 50 to 200 Volts CURRENT 3.0 Amperes

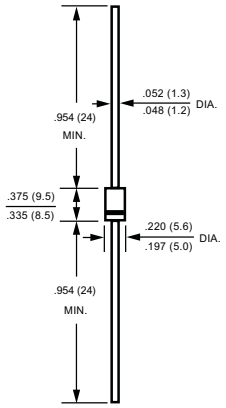
FEATURES

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

MECHANICAL DATA

* Epoxy: Device has UL flammability classification 94V-O
* Metallurgically bonded construction
* Mounting position: Any

DO-201AD



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.
resistive or inductive load.

MAXIMUM RATINGS (@ TA=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 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	3.0				Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	80				Amps
Current Squarad Time	I^2t	26.56				A^2/Sec
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	20				°C/W
Typical Thermal Resistance (Note 1)	$R_{\theta JL}$	8.0				°C/W
Typical Junction Capacitance (Note 2)	C_J	45				pF
Operating Temperature Range	T_J	-55 to + 150				°C
Storage Temperature Range	T_{STG}	-55 to + 150				°C

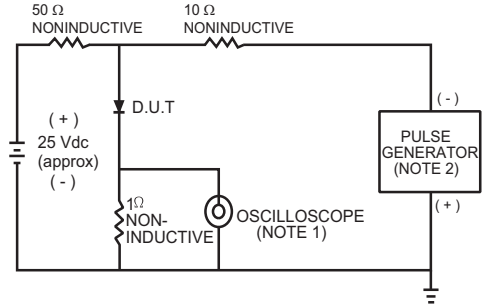
ELECTRICAL CHARACTERISTICS(@TA=25 °C unless otherwise noted)

CHARACTERISTICS		SYMBOL	USF31	USF32	USF33	USF34	UNITS
Maximum Instantaneous Forward Voltage at 3.0A DC		V_F	.95				Volts
Maximum Average Reverse Current	@T_A = 25°C	I_R	5.0				µA
at Rated DC Blocking Voltage	@T_A = 150°C		2.0				mA
Maximum Reverse Recovery Time (Note 4)		trr	20				nSec

NOTES : 1. Thermal Resistance :At 9.5mm lead lengths, 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.

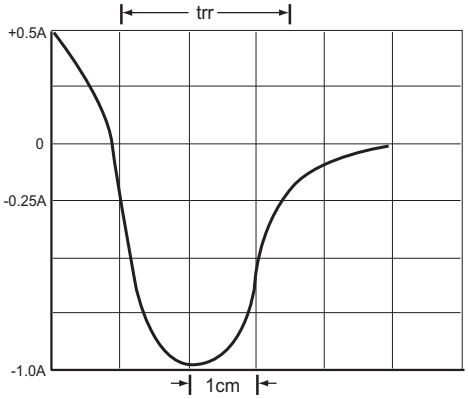
2020-04
REV:C

RATING AND CHARACTERISTICS CURVES (USF31 THRU USF34)



NOTES: 1 Rise Time = 7ns max. Input Impedance = 1 megohm. 22pF.

2. Rise Time = 10ns max. Source Impedance = 50 ohms.



SET TIME BASE FOR 8/1 ns/cm

FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

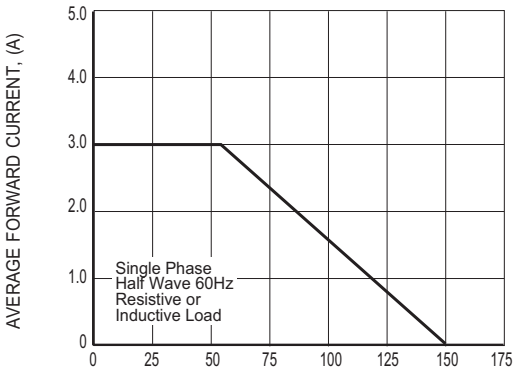


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

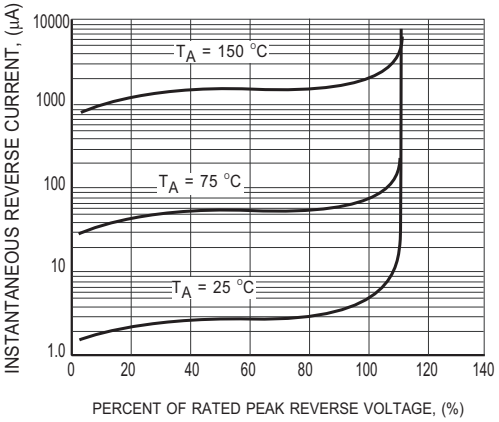


FIG.3 MAXIMUM REVERSE CHARACTERISTICS

RATING AND CHARACTERISTICS CURVES (USF31 THRU USF34)

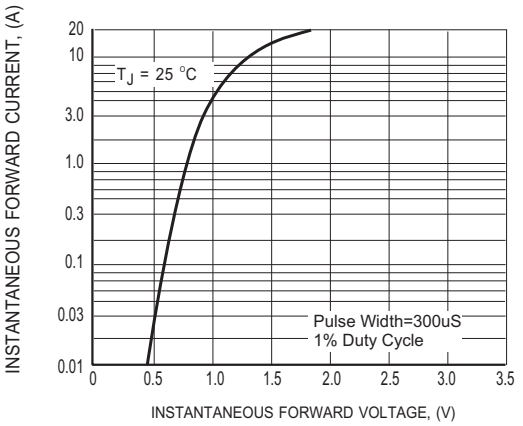


FIG.4 MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS

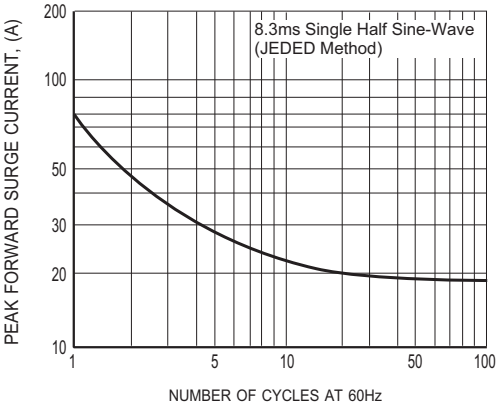


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

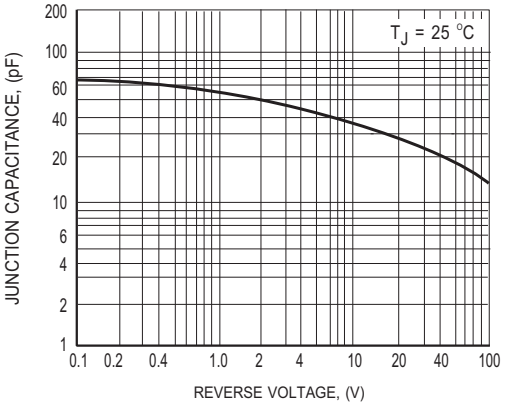
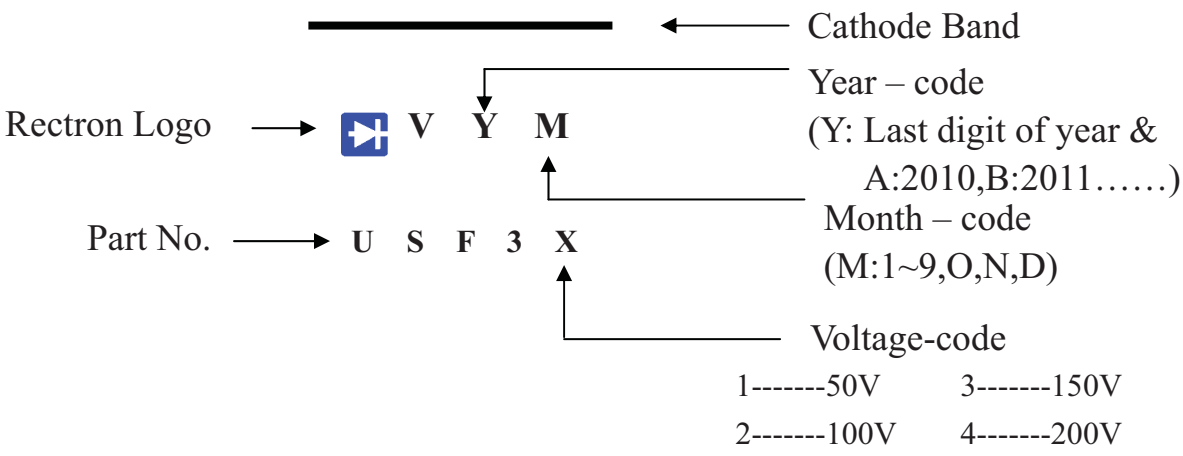


FIG.6 TYPICAL JUNCTION CAPACITANCE

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-201	-B	500	300*73*40	347*320*271	12,000	15.9

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-201	-T	1,200	1,200	5.0	52	330	355*350*335	4,800	9.10

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-201	-F	600	9.5	52	255*73*100	400*268*225	6,000	9.9