SEMICONDUCTOR

DATA SHEET

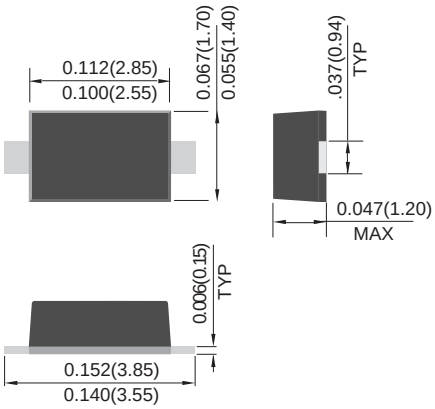
UF1AS THRU UF1MS

SURFACE MOUNT REVERSE VOLTAGE - 50 to 1000 Volts
ULTRA FAST RECTIFIERS FORWARD CURRENT - 1.0 Ampere

: Halogen Free

: Pb Free

SOD-123S Unit:inch(mm)



FEATURES

- Glass passivated chip
- Ultra fast switching for high efficiency
- For surface mounted applications
- Low forward voltage drop and high current capability
- Low reverse leakage current
- Plastic material has UL flammability classification 94V-0
- High temperature soldering : 260°C / 10 seconds at terminals
- Pb free product at available : 99% Sn above meet RoHS environment substance directive request

MECHANICAL DATA

- Case : Molded plastic
- Polarity : Indicated by cathode band
- Weight : 0.01 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

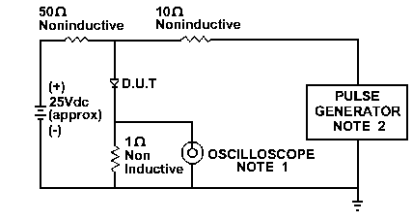
Ratings at 25• •ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%

CHARACTERISTICS	SYMBOL	UF1AS	UF1BS	UF1DS	UF1GS	UF1JS	UF1KS	UF1MS	UNIT
MARKING CODE		U1	U2	U3	U4	U5	U6	U7	
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current @TL =75°C	$I_{(AV)}$	1.0							A
Peak Forward Surge Current 8.3ms single half sine-wave super imposed on rated load (JEDEC METHOD)	I_{FSM}	30							A
Maximum forward Voltage at 1.0A DC	V_F	1.0			1.3	1.5	1.7		V
Maximum DC Reverse Current @TJ =25°C at Rated DC Blocking Voltage @TJ =100°C	I_R	5 100							uA
Maximum Reverse Recovery Time (Note 1)	T_{RR}	50				75			ns
Typical Junction Capacitance (Note 2)	C_J	20				10			pF
Typical Thermal Resistance (Note 3)	$R_{\theta JL}$	30							°C/W
Operating Temperature Range	T_J	-55 to +150							°C
Storage Temperature Range	T_{STG}	-55 to +150							°C

NOTES : 1.Reverse Recovery Test Conditions : I_F=0.5A, I_R=1.0A, I_{RR}=0.25A.
2.Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
3.Thermal Resistance junction to Lead.

RATING AND CHARACTERISTIC CURVES

UF1AS THRU UF1MS



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

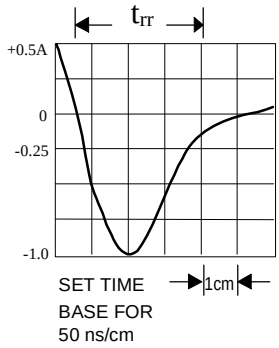


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

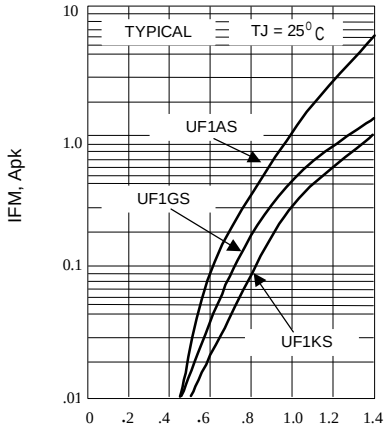


Fig. 2-FORWARD CHARACTERISTICS

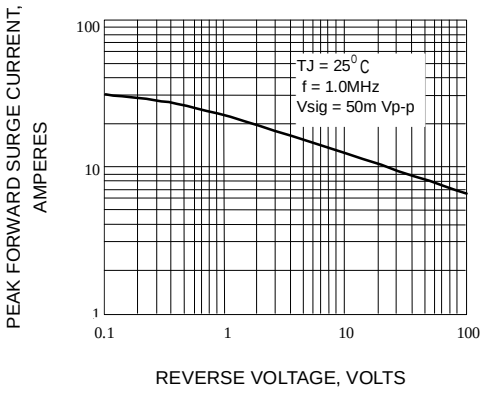


Fig. 3- TYPICAL JUNCTION CAPACITANCE

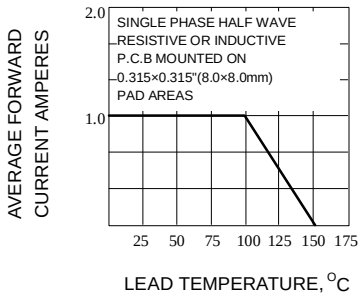


Fig. 4- FORWARD CURRENT DERATING CURVE

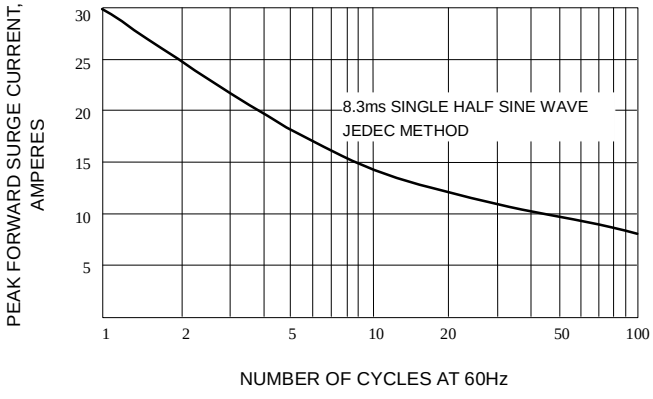


Fig. 5-PEAK FORWARD SURGE CURRENT

MOUNTING PAD LAYOUT

SOD-123S Unit: inch (mm)

