

**SURFACE MOUNT
FAST RECOVERY RECTIFIER**
VOLTAGE RANGE 50 to 600 Volts CURRENT 0.5 Ampere

FEATURES

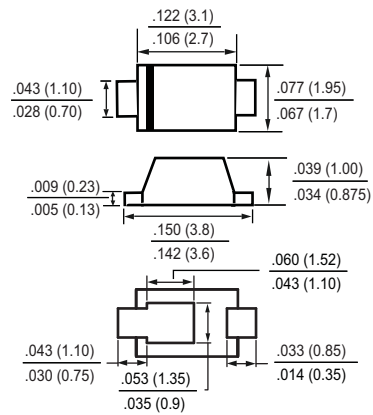
- * Fast switching
- * Low leakage
- * Low forward voltage drop
- * High current capability
- * High current surge
- * High reliability

MECHANICAL DATA

- * Epoxy: Device has UL flammability classification 94V-O
- * Mounting position: Any
- * Weight: 0.015 gram



SOD-123FL



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 (@ TA=25 °C unless otherwise noted)

RATINGS	SYMBOL	05F1L	05F2L	05F3L	05F4L	05F5L	UNITS
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	200	400	600	Volts
Maximum RMS Voltage	V _{RMS}	35	70	140	280	420	Volts
Maximum DC Blocking Voltage	V _{DC}	50	100	200	400	600	Volts
Maximum Average Forward Rectified Current at T _A = 55°C	I _O	0.5					Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I _{FSM}	15					Amps
Current Squared Time	I ² t	0.9					A ² /Sec
Typical Thermal Resistance (Note 4)	R _{θJA}	32					°C/W
	R _{θJC}	150					
Typical Junction Capacitance (Note 2)	C _J	15					pF
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to + 150					°C

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

CHARACTERISTICS	SYMBOL	05F1L	05F2L	05F3L	05F4L	05F5L	UNITS
Maximum Instantaneous Forward Voltage at 0.5 A DC	V _F	1.3					Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage T _A = 25°C	I _R	5.0					uAmps
Maximum Full Load Reverse Current Full Cycle Average, .375" (9.5mm) lead length at T _L = 55°C		100					uAmps
Maximum Reverse Recovery Time (Note 1)	t _{rr}	150				250	nSec

- NOTES : 1. Reverse Recovery 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
 3. "ROHS compliant".
 4. Thermal Resistance : Mounted on PCB.
 5. Available in Halogen-free epoxy by adding suffix -HF after the part nbr.

RATING AND CHARACTERISTICS CURVES (05F1L THRU 05F5L)

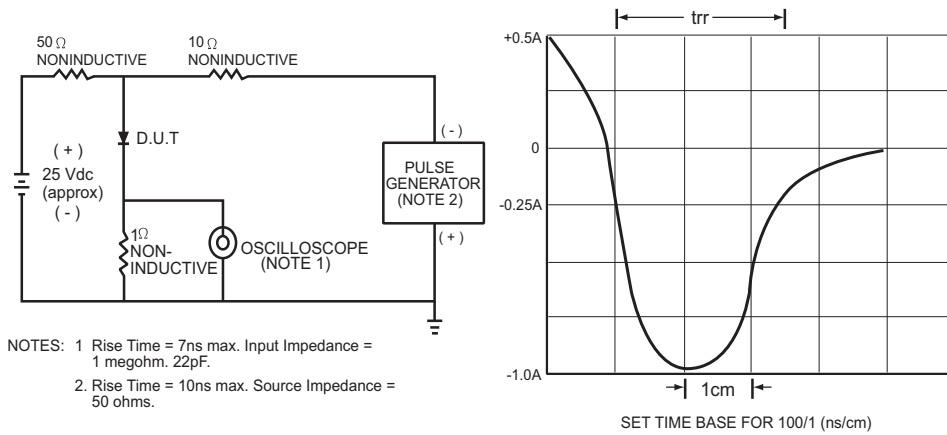


FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

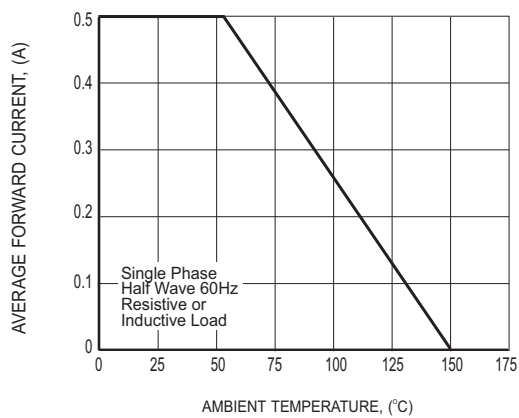


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

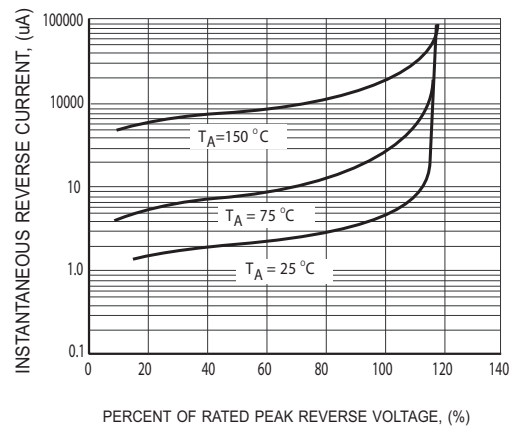


FIG.3 MAXIMUM REVERSE CHARACTERISTICS

RATING AND CHARACTERISTICS CURVES (05F1L THRU 05F5L)

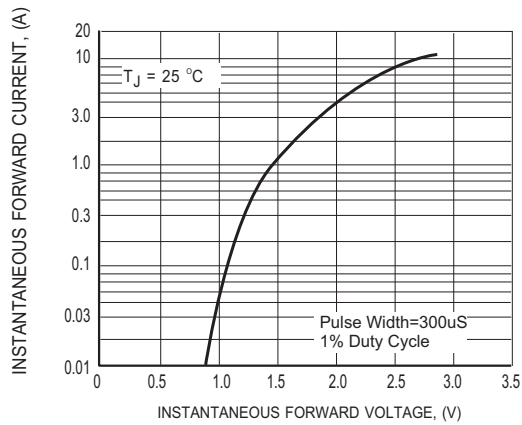


FIG.4 MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS

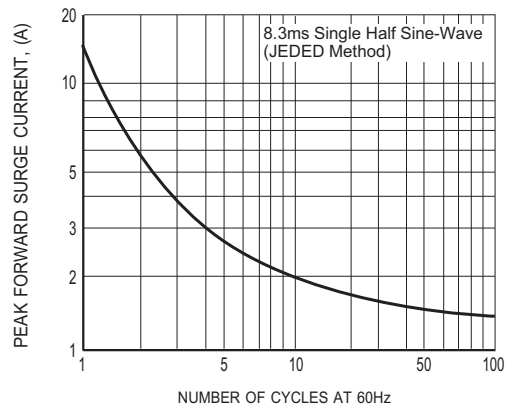


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

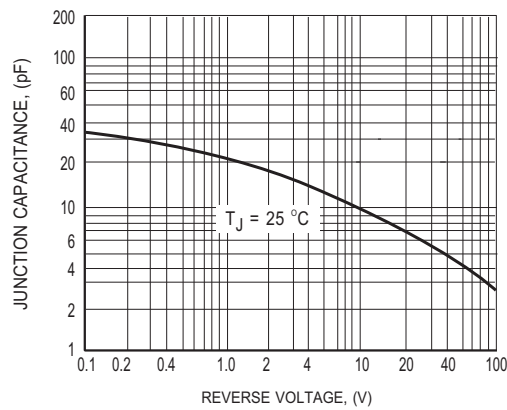
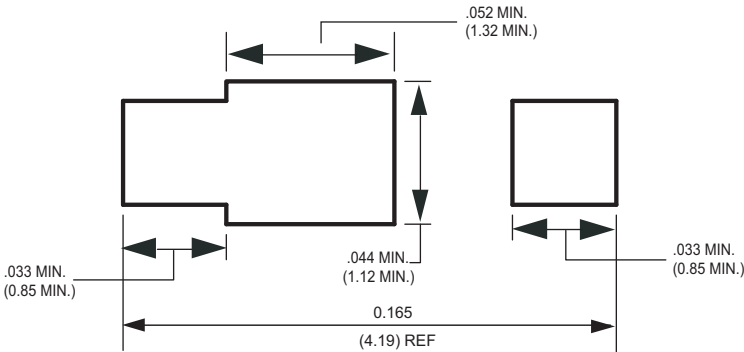


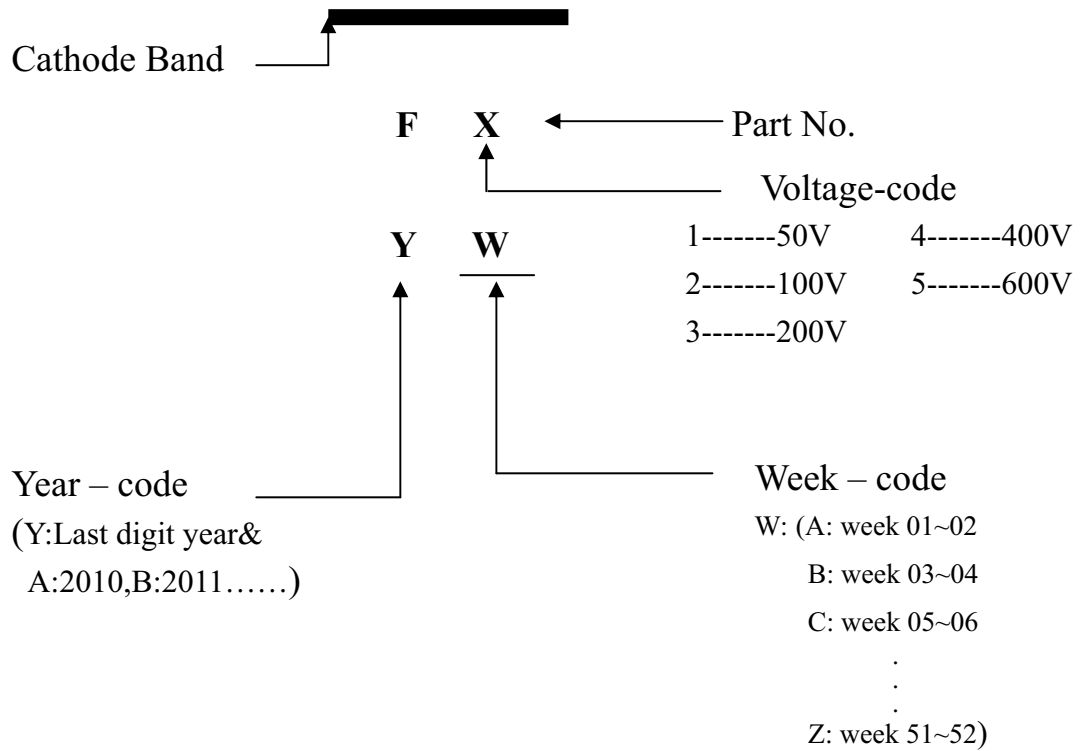
FIG.6 TYPICAL JUNCTION CAPACITANCE

Mounting Pad Layout



Dimensions in inches and (millimeters)

Marking Description



PACKAGING OF DIODE AND BRIDGE RECTIFIERS

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)
SOD-123F/ SOD-123FL	-W	3,000	15,000	---	---	178	390*205*31	120,000	6.964

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