



**DC COMPONENTS CO., LTD.**  
RECTIFIER SPECIALISTS

**M13  
THRU  
M20**

**TECHNICAL SPECIFICATIONS OF SURFACE MOUNT SILICON RECTIFIER**

**VOLTAGE RANGE 1300 to 2000 Volts**

**CURRENT 1.0 Ampere**

**FEATURES**

- \* Ideal for surface mounted applications
- \* Low leakage current

**MECHANICAL DATA**

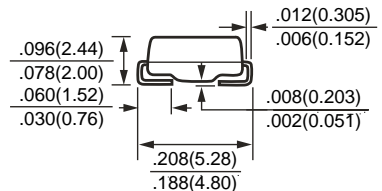
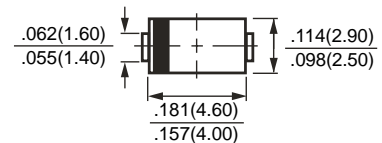
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- \* Polarity: As marked
- \* Mounting position: Any
- \* Weight: 0.064 gram

**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%.



**SMA(DO-214AC)**



Dimensions in inches and (millimeters)

	SYMBOL	M13	M16	M20	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	1300	1600	2000	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	910	1120	1400	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	1300	1600	2000	Volts
Maximum Average Forward Rectified Current at T <sub>A</sub> = 75°C	I <sub>O</sub>		1.0		Amps
Peak Forward Surge Current I <sub>FM</sub> (surge): 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>		30		Amps
Maximum Forward Voltage at 1.0A DC	V <sub>F</sub>		1.1		Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	I <sub>R</sub>	@ T <sub>A</sub> = 25°C	5.0		uAmps
		@ T <sub>A</sub> = 125°C	50		
Maximum Reverse Recovery Time (Note 3)	t <sub>rr</sub>		2.5		uSec
Typical Thermal Resistance (Note 2)	R <sub>θJL</sub>		30		°C/W
Typical Junction Capacitance (Note 1)	C <sub>J</sub>		15		pF
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>		-65 to + 175		°C

NOTES : 1. Measured at 1.0 MHz and applied reverse voltage of 4.0VDC  
 2. Thermal Resistance (Junction to Ambient), .24in<sup>2</sup> (6.0mm<sup>2</sup>) copper pads to each terminal.  
 3. Test Conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A.

# RATING AND CHARACTERISTIC CURVES (M13 thru M20)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

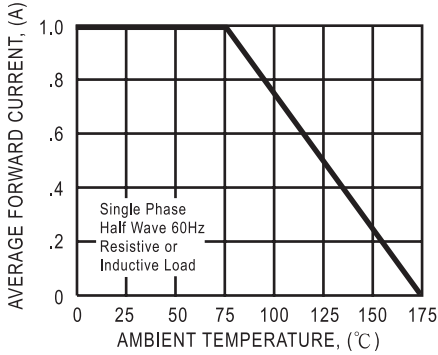


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

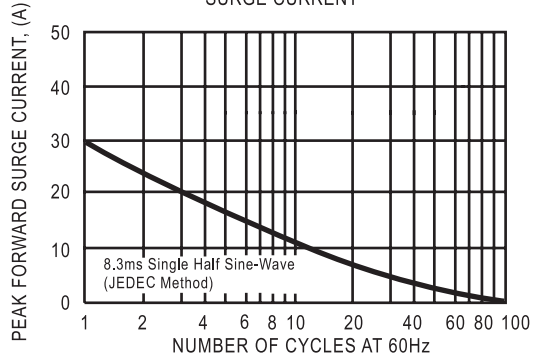


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

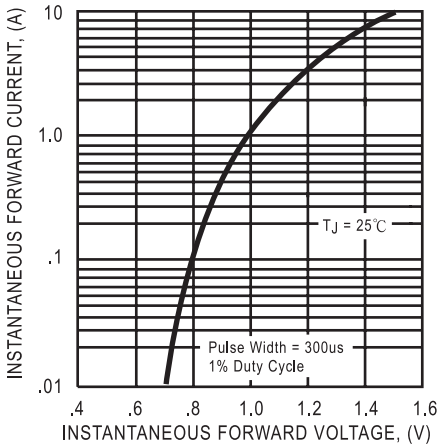


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

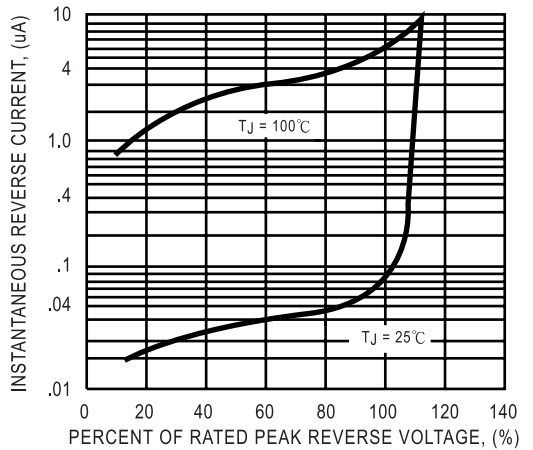
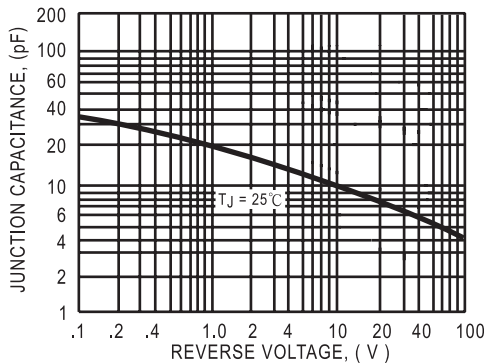


FIG. 5 - TYPICAL JUNCTION CAPACITANCE



DC COMPONENTS CO., LTD.

Diode, Bridge  
INDEX 1  
Rectifiers

Diode, Bridge  
INDEX 2  
Rectifiers

Transistors,  
INDEX 1  
SCR, IC