



DC COMPONENTS CO., LTD.
RECTIFIER SPECIALISTS

**M1
THRU
M7**

TECHNICAL SPECIFICATIONS OF SURFACE MOUNT SILICON RECTIFIER

VOLTAGE RANGE 50 to 1000 Volts

CURRENT 1.0 Ampere

FEATURES

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

MECHANICAL DATA

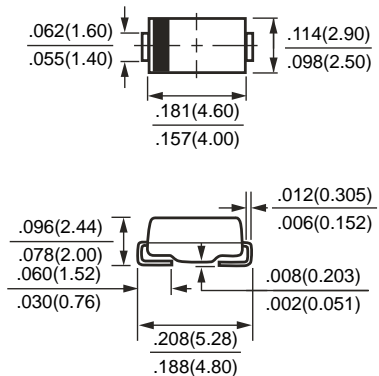
- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- * Polarity: As marked
- * Mounting position: Any
- * Weight: 0.064 gram

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 | M1 | M2 | M3 | M4 | M5 | M6 | M7 | | | UNITS | |
|--|-----------------------------------|-------------------------|-----|-----|-----|-----|-----|------|--|--|-------|-------|
| Maximum Recurrent Peak Reverse Voltage | V _{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | | | Volts | |
| Maximum RMS Voltage | V _{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | | | Volts | |
| Maximum DC Blocking Voltage | V _{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | | | Volts | |
| Maximum Average Forward Rectified Current at T _A = 75°C | I _O | 1.0 | | | | | | | | | | Amps |
| Peak Forward Surge Current I _{FM} (surge): 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | I _{FSM} | 30 | | | | | | | | | | Amps |
| Maximum Forward Voltage at 1.0A DC | V _F | 1.1 | | | | | | | | | | Volts |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | I _R | @T _A = 25°C | | | | | | 5.0 | | | | uAmps |
| | | @T _A = 125°C | | | | | | 50 | | | | |
| Maximum Reverse Recovery Time (Note 3) | t _{rr} | 2.5 | | | | | | | | | | uSec |
| Typical Thermal Resistance (Note 2) | R _{θJL} | 30 | | | | | | | | | | °C/W |
| Typical Junction Capacitance (Note 1) | C _J | 15 | | | | | | | | | | pF |
| Operating and Storage Temperature Range | T _J , T _{STG} | -65 to + 175 | | | | | | | | | | °C |

NOTES : 1. Measured at 1.0 MHz and applied reverse voltage of 4.0VDC
 2. Thermal Resistance (Junction to Ambient), .24in² (6.0mm²) copper pads to each terminal.
 3. Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A.

RATING AND CHARACTERISTIC CURVES (M1 thru M7)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

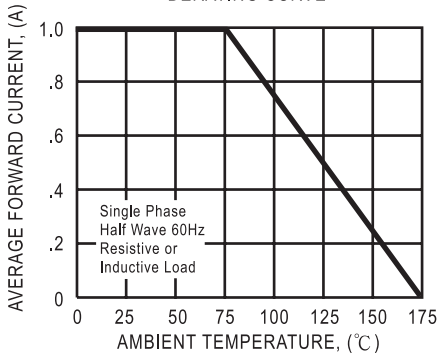


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

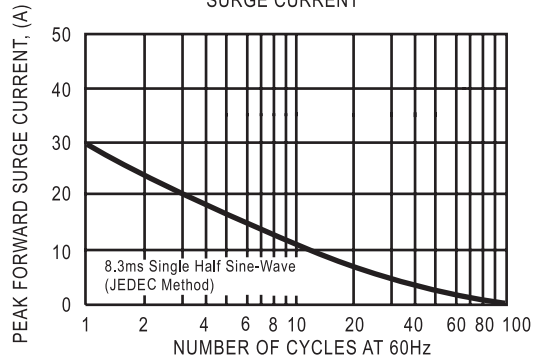


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

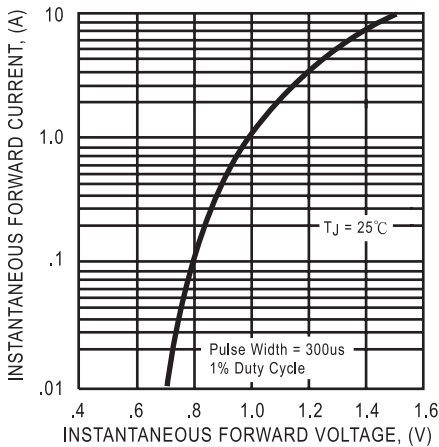


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

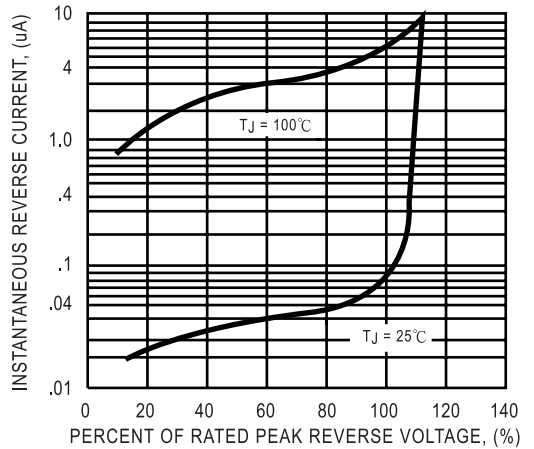
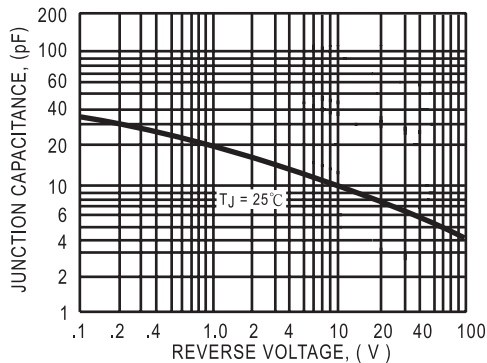


FIG. 5 - TYPICAL JUNCTION CAPACITANCE





DC COMPONENTS CO., LTD.
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

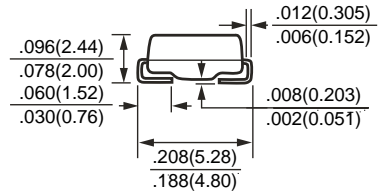
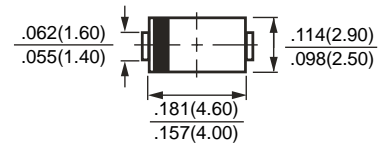
- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- * Polarity: As marked
- * Mounting position: Any
- * Weight: 0.064 gram

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

- NOTES : 1. Measured at 1.0 MHz and applied reverse voltage of 4.0VDC
 2. Thermal Resistance (Junction to Ambient), .24in² (6.0mm²) copper pads to each terminal.
 3. Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A.

RATING AND CHARACTERISTIC CURVES (M13 thru M20)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

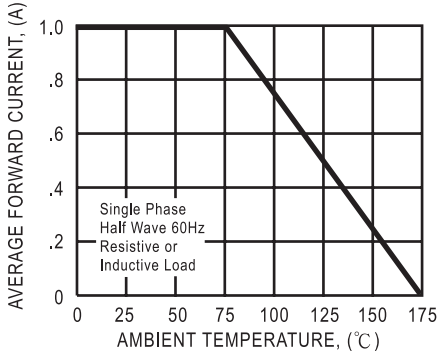


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

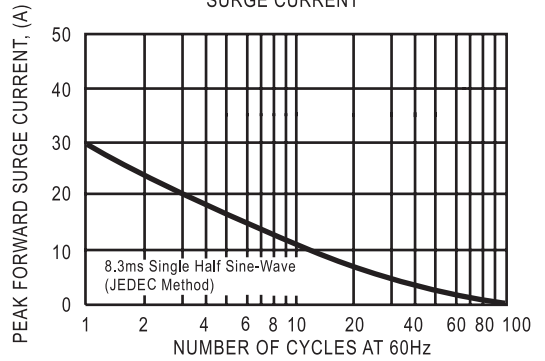


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

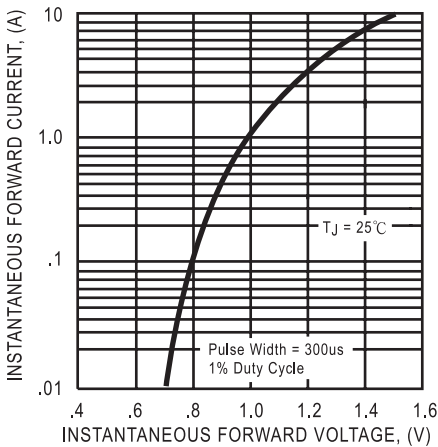


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

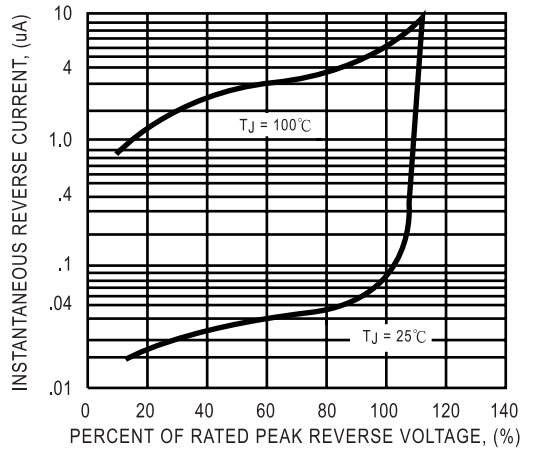


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

