

# MC5610 thru MC5619

## FEATURES

- Monolithic voidless construction.
- Triple layer passivation.
- Lowest reverse leakage.
- Smallest package available.
- Lowest thermal resistance.
- Maximum breakdown voltage per die.
- Absolute high voltage/high temperature stability.

## DESCRIPTION

The MC5610 through MC5619 series of high power silicon rectifiers feature the smallest packages available. Metallurgically bonded and hermetically sealed, they exceed all requirements of aerospace and military specifications, including MIL-S-19500. Typical applications include transmitters, power supplies, radar equipment and X-ray machines.

## ELECTRICAL CHARACTERISTICS

| TYPE NO. | WORKING PEAK REVERSE VOLTAGE $V_{RWM}$ | RMS VOLTAGE | DC BLOCKING VOLTAGE | NOTE 2. AVERAGE RECTIFIED CURRENT $I_{T_L}$ |       | Max. Static FORWARD VOLTAGE $V_F$ @ 100mA | Max. Static REVERSE CURRENT $I_{RWM}$ @ $V_{RWM}$ | Max. Static REVERSE CURRENT $I_{RWM}$ @ $V_{RWM}$ | ONE CYCLE BURGE | $t_{rr}$ 1/ |
|----------|----------------------------------------|-------------|---------------------|---------------------------------------------|-------|-------------------------------------------|---------------------------------------------------|---------------------------------------------------|-----------------|-------------|
|          |                                        |             |                     | 55°C                                        | 100°C |                                           |                                                   |                                                   |                 |             |
| MC 5610  | 1500                                   | 1050        | 1500                | 790                                         | 415   | 3.0                                       | 1.0                                               | 25                                                | 8               | 300         |
| MC 5611  | 2000                                   | 1400        | 2000                | 630                                         | 330   | 4.0                                       | 1.0                                               | 25                                                | 6               | 300         |
| MC 5612  | 2500                                   | 1750        | 2500                | 530                                         | 280   | 5.0                                       | 1.0                                               | 25                                                | 5               | 300         |
| MC 5613  | 1500                                   | 1050        | 1500                | 975                                         | 515   | 3.0                                       | 1.0                                               | 20                                                | 8               | 300         |
| MC 5614  | 2000                                   | 1400        | 2000                | 790                                         | 415   | 4.0                                       | 1.0                                               | 20                                                | 6               | 300         |
| MC 5615  | 2500                                   | 1750        | 2500                | 665                                         | 350   | 5.0                                       | 1.0                                               | 20                                                | 5               | 300         |
| MC 5616  | 3000                                   | 2100        | 3000                | 570                                         | 300   | 6.0                                       | 1.0                                               | 20                                                | 4               | 300         |
| MC 5617  | 4000                                   | 2800        | 4000                | 330                                         | 120   | 8.0                                       | 2.5                                               | 50                                                | 3               | 300         |
| MC 5618  | 4500                                   | 3150        | 4500                | 300                                         | 110   | 9.0                                       | 2.5                                               | 50                                                | 2.7             | 300         |
| MC 5619  | 5000                                   | 3500        | 5000                | 275                                         | 100   | 10.0                                      | 2.5                                               | 50                                                | 2.5             | 300         |

NOTE 1:  $I_F = 50$  mA,  $I_R = 100$  mA,  $I_{RR} = 25$  mA

NOTE 2: Heat sink  $\frac{3}{16}$ " from body

## MECHANICAL CHARACTERISTICS

Tinned copper leads. . . . . Refer to Figure 1  
Positive terminal (cathode) marked with band.  
Operating temperature range:  
MC5610-MC5612. . . . . -55°C to 150°C  
MC5613-MC5616. . . . . -65°C to 150°C  
MC5617-MC5619. . . . . -65°C to 125°C  
Storage temperature range (MC5610-MC5619). . . . . -65°C to 175°C

## FAST RECOVERY HIGH POWER MICRO HIGH VOLTAGE RECTIFIERS

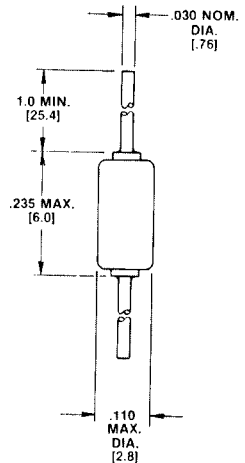


FIGURE 1  
Package S

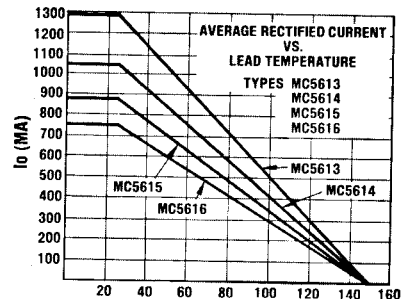


FIGURE 2  
LEAD TEMPERATURE (°C)  
(L =  $\frac{3}{16}$  INCH)