

# MI204

## PIN DIODE

### DESCRIPTION

The MI204 PIN diode is employing a high reliability glass construction designed for RF small signal attenuator in VHF UHF.

### FEATURES

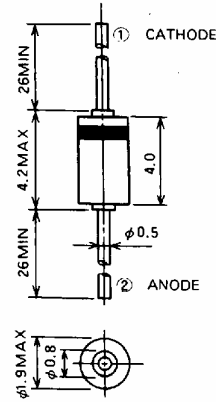
- Long carrier lifetime
- Low distortion
- Large dynamic range

### APPLICATION

RF attenuator RF switching

### OUTLINE DRAWING

Dimension: mm

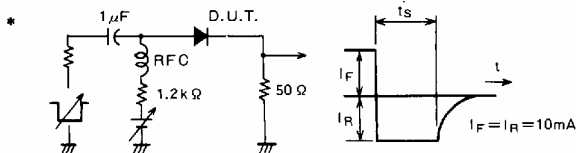


### ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

| Symbol           | Parameter                       | Rating     | Unit |
|------------------|---------------------------------|------------|------|
| V <sub>RM</sub>  | Repetitive peak reverse voltage | 30         | V    |
| V <sub>R</sub>   | Reverse voltage                 | 28         | V    |
| P                | Power dissipation               | 200        | mW   |
| T <sub>j</sub>   | Junction temperature            | 175        | °C   |
| T <sub>stg</sub> | Storage temperature             | -55 to 175 | °C   |

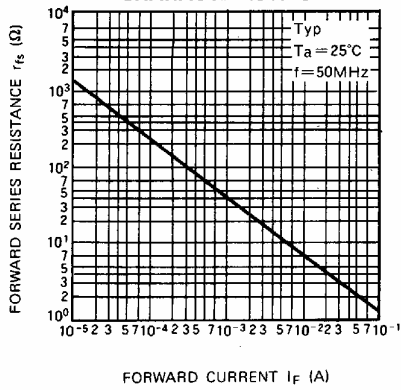
### ELECTRICAL CHARACTERISTICS (Ta=25°C)

| Symbol           | Parameter                 | Test conditions                                | Limits |     |     | Unit |
|------------------|---------------------------|--|--------|-----|-----|------|
|                  |                           |  | Min    | Typ | Max |      |
| I <sub>R1</sub>  | Reverse current           | V <sub>R</sub> = 30 V                          |        |     | 10  | μA   |
| I <sub>R2</sub>  | Reverse current           | V <sub>R</sub> = 28 V                          |        |     | 0.5 | μA   |
| V <sub>F</sub>   | Forward voltage           | I <sub>F</sub> = 100 mA                        |        |     | 1.0 | V    |
| r <sub>fs1</sub> | Forward series resistance | I <sub>F</sub> = 10 mA, f = 50 MHz             |        | 5.5 | 10  | Ω    |
| r <sub>fs2</sub> |                           | I <sub>F</sub> = 10 μA, f = 50 MHz             | 1.0    | 1.5 |     | kΩ   |
| C <sub>t</sub>   | Diode capacitance         | V <sub>R</sub> = 15 V, f = 1.0 MHz             |        | 0.7 | 1.2 | pF   |
| τ                | Life time                 | I <sub>F</sub> = 10 mA                         |        | 2.1 |     | μs   |
| *t <sub>s</sub>  | Storage time              | I <sub>F</sub> = 10 mA, I <sub>R</sub> = 10 mA | 0.6    | 1.5 |     | μs   |

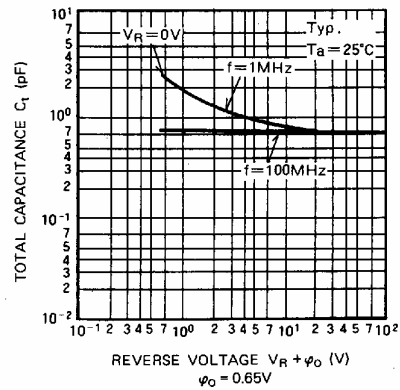


TYPICAL PERFORMANCE DATA

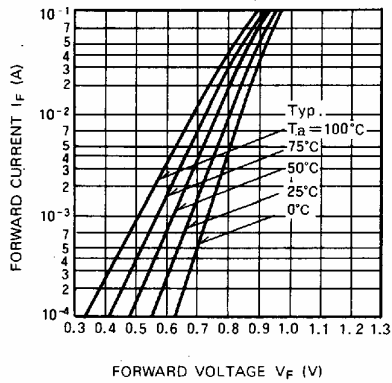
FORWARD SERIES RESISTANCE VS. FORWARD CURRENT CHARACTERISTICS



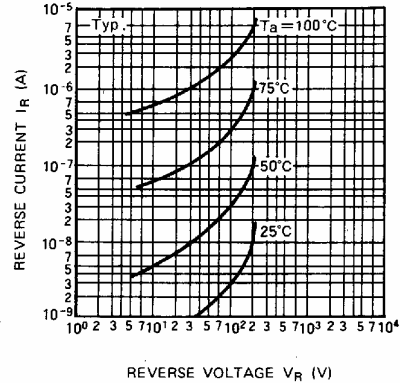
TOTAL CAPACITANCE VS. REVERSE VOLTAGE CHARACTERISTICS



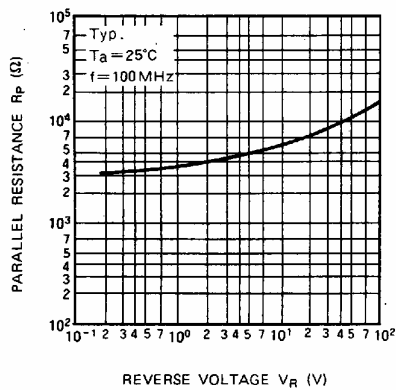
FORWARD CURRENT VS. FORWARD VOLTAGE CHARACTERISTICS



REVERSE CURRENT VS. REVERSE VOLTAGE CHARACTERISTICS



PARALLEL RESISTANCE VS. REVERSE VOLTAGE CHARACTERISTICS



INTER MODULATION DISTORTION

