

SCRs

1.6 Amp, Planar

查询AD100供应商

AD100-AD104
AD107-AD111
AD114-AD118

捷多邦, 专业PCB打样工厂 24小时加急出货

FEATURES

- Maximum Gate Trigger Current: 2, 20 or 200 μ A
- Tight Gate Trigger Voltage Range: .44 to .6V
- Voltage Ratings: to 400V
- Specified for dv/dt and Switching Time

DESCRIPTION

This data sheet describes Microsemi's AD Series 1.6A SCRs designed for medium-current control and sensing applications. Units are available in a complete range of blocking voltages from 60 to 400 volts.

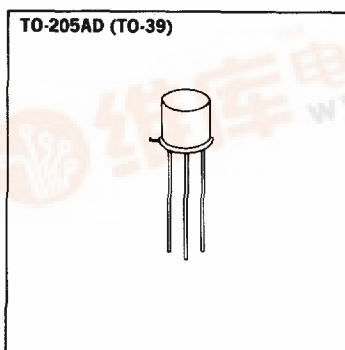
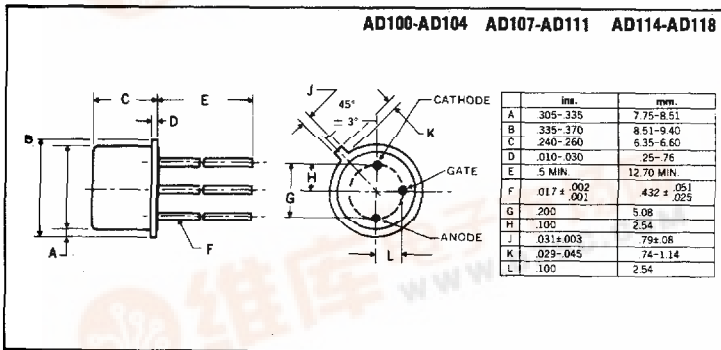
The AD100 series offers a maximum gate trigger current of 2.0 microamps making it the most sensitive device of its type. The AD107 series has a maximum I_{GT} of 20 μ A while this parameter is specified at 200 μ A for the AD114 series.

ABSOLUTE MAXIMUM RATINGS

| | AD100 AD107 AD114 | AD101 AD108 AD115 | AD102 AD109 AD116 | AD103 AD110 AD117 | AD104 AD111 AD118 |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Repetitive Peak Off-State Voltage, V_{DRM} | 60V | 100V | 200V | 300V | 400V |
| Repetitive Peak Reverse Voltage, V_{RRM} | 60V | 100V | 200V | 300V | 400V |
| Non-Repetitive Peak Reverse Voltage, V_{RSM} | 80V | 150V | 300V | 400V | 500V |
| Non-Repetitive Peak Off-State Voltage, V_{DSM} | | | 500V | | |
| D.C. On-State Current, I_T | | | | | |
| 75°C Ambient | | | 450mA | | |
| 85°C Case | | | 1.6A | | |
| Repetitive Peak On-State Current, I_{TRM} | | | up to 30A | | |
| Peak One Cycle Surge (Non-Rep.) On-State Current, I_{TSM} | | | 15A | | |
| Peak Gate Current, I_{GM} | | | 250mA | | |
| Average Gate Current, $I_{G(AV)}$ | | | 25mA | | |
| Reverse Gate Voltage, V_{GR} | | | 6V | | |
| Operating and Storage Temperature Range | | | -65°C to +150°C | | |

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MECHANICAL SPECIFICATIONS

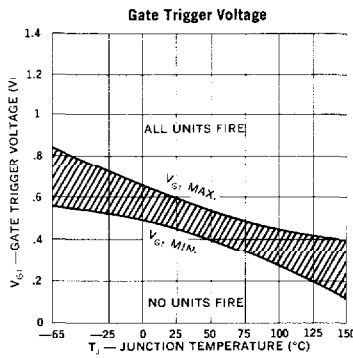
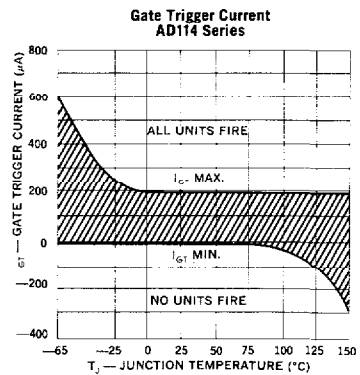
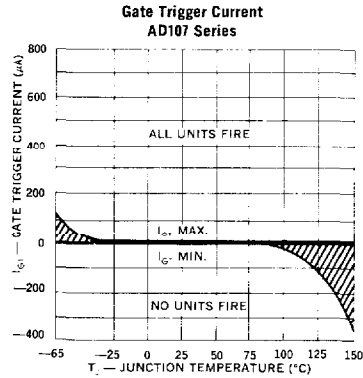
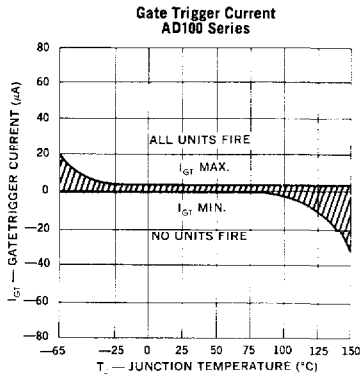


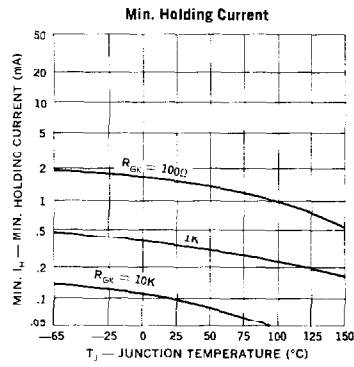
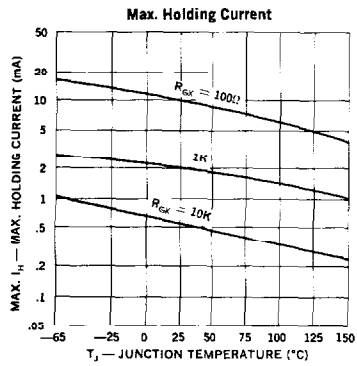
Microsemi Corp.
Watertown
The diode experts

ELECTRICAL SPECIFICATIONS (at 25°C unless noted)

| Parameter | Symbol | Min. | Typical | Max. | Units | Test Conditions |
|--|---------------------|------|---------|------|------------|--|
| SUBGROUP 1 | | | | | | |
| Visual & Mechanical | | | | | | |
| SUBGROUP 2 (25°C TESTS) | | | | | | |
| Off-State Current | I_{DRM} | — | .01 | 0.1 | μA | $R_{GK} = 1K, V_{DRM} = \text{Rating}$ |
| Reverse Current | I_{RRM} | — | .01 | 0.1 | μA | $R_{GK} = 1K, V_{RRM} = \text{Rating}$ |
| Reverse Gate Current | I_{GR} | — | 0.1 | 0.2 | μA | $V_{GR} = 2V$ |
| Gate Trigger Current | I_{GT} | — | — | — | — | $R_{GS} = 10K, V_D = 5V$ |
| AD100-104 | | — | 0.2 | 2.0 | μA | |
| AD107-111 | | — | 2.0 | 20 | μA | |
| AD114-118 | | — | 20 | 200 | μA | |
| Gate Trigger Voltage | V_{GT} | 0.44 | 0.52 | 0.60 | V | $R_{GS} = 100\Omega, V_D = 5V$ |
| On-State Voltage | V_T | — | 1.1 | 1.5 | V | $I_T = 1.0 \text{ Amp (pulse)}$ |
| Holding Current | I_H | 0.3 | 0.5 | 2.0 | mA | $R_{GK} = 1K$ |
| SUBGROUP 3 (25°C TESTS) | | | | | | |
| On-State Voltage-Critical Rate of Rise | dv/dt | 50 | 100 | — | V/ μS | $R_{GK} = 1K, V_D = 30V$ |
| Gate Trigger-on Pulse Width | $t_{pg}(\text{on})$ | — | 0.5 | 2.0 | μS | $I_G = 10mA, I_T = 1A, V_D = 30V$ |
| Delay Time | t_d | — | 0.6 | — | μS | $I_G = 10mA, I_T = 1A, V_D = 30V$ |
| Rise Time | t_r | — | 0.4 | — | μS | $I_G = 10mA, I_T = 1A, V_D = 30V$ |
| Circuit Commutated Turn-off Time | t_g | — | 20 | 50 | μS | $I_T = 1A, I_R = 1A, R_{GK} = 1K$ |
| SUBGROUP 4 (125°C TESTS) | | | | | | |
| Off-State Current | I_{DRM} | — | 10 | 100 | μA | $R_{GK} = 1K, V_{DRM} = \text{Rating}$ |
| Reverse Current | I_{RRM} | — | 30 | 100 | μA | $R_{GK} = 1K, V_{RRM} = \text{Rating}$ |
| Gate Trigger Voltage | V_{GT} | 0.15 | 0.2 | — | V | $R_{GS} = 100\Omega, V_D = 5V$ |
| Holding Current | I_H | 0.2 | 0.4 | 1.5 | mA | $R_{GK} = 1K$ |

Note: Blocking voltage ratings apply over the full operating temperature range, provided the gate is connected to the cathode through a resistor, 1000 ohms or smaller, or other adequate bias is used.





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