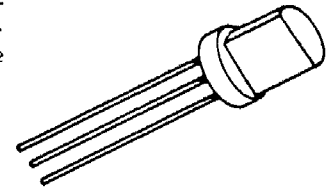


C13 Complementary Silicon Controlled Rectifier (CSCR) is a three-terminal, planar-passivated PNP device in the standard, low-cost plastic TO-98 JEDEC package. As CSCR's, the C13F and the C13Y offer greater flexibility in circuit design through the use of the anode gate. The three leads are designated as anode, anode gate and cathode.



Outstanding Features

- Planar Passivated Structure
- Low Leakage Current
- Low Triggering Current
- Low Forward Voltage Drop
- Low Cost
- High Gate Breakdown Voltage

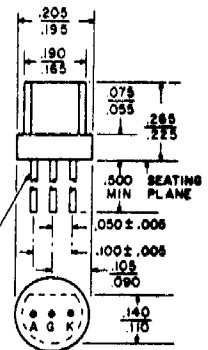
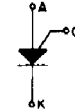
Applications

- Automotive Switching
- SCR Triggering
- Ring Counters
- Level Detectors
- Fuse Circuits
- Miniature Lamp Drivers
- Low Level Logic
- Memory Circuits

DIMENSIONS WITHIN JEDEC OUTLINE TO-98

NOTE 1: Lead diameter is controlled in the zone between .070 and .250 from the seating plane. Between .250 and end of lead a max. of .021 is held.

ALL DIMEN. IN INCHES AND ARE REFERENCE UNLESS TOLERANCED



3 LEADS
.017 ±.002
-.001
(NOTE 1)

The C13 CSCR operates similarly to the conventional SCR. The major difference is that the device is turned on by forward biasing the junction between the anode and the anode gate. The voltage on the anode gate is made negative with respect to the voltage on the anode. "Conventional" SCR's are turned on by injecting current into the lower p-base (cathode gate), while those that are turned on through the upper n-base (anode gate) are called "complementary" SCR's. A four-terminal, Silicon Controlled Switch (SCS) has connections to both bases and either, or both, bases may be used to initiate switching.

MAXIMUM ALLOWABLE RATINGS

Types	Peak Forward Blocking Voltage, V_{DWM} (RGA = 1K)	Working and Repetitive Peak Reverse Voltage, V_{RWM} & V_{RRM} (Open Gate)	Non-Repetitive Peak Reverse Voltage, V_{RRM} (Open Gate)
C13Y	30 volts	30 volts	30 volts
C13F	50 volts	50 volts	50 volts

*Reverse Blocking Voltage, V_{RM} (Finite gate resistance)	5 Volts
Continuous Forward Current, I_{TM}	250 Milliamperes
Peak Forward Current, I_{TRM} (10 μ sec., 1% Duty Cycle, 100°C)	3 Amperes
Peak Forward Current, I_{TRM} (100 μ sec., 1% Duty Cycle, 100°C)	1 Ampere
Peak Forward Surge Current, I_{TRM} (non-repetitive, 5 μ sec., 25°C)	10 Amperes
Peak Forward Gate Current, I_{GM}	50 Milliamperes
Peak Reverse Gate Current, I_{GM}	50 Milliamperes
Peak Reverse Gate Voltage, V_{GM}	30 Volts
Average Gate Power Dissipation, $P_{G(AV)}$	10 Milliwatts
Storage Temperature, T_{STG}	-65°C to +150°C
Operating Temperature	-55°C to +100°C
Total Power, P_T (Derate linearly to 0 at 100°C)	450 mW