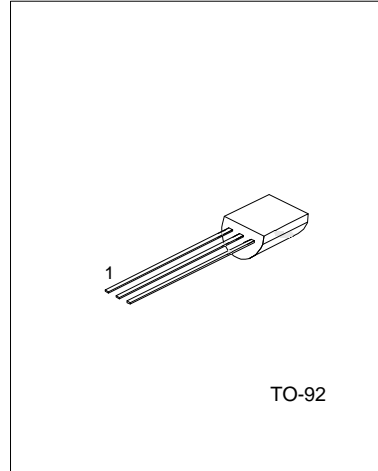


PLASTIC SILICON
CONTROLLED RECTIFIERS

DESCRIPTION

PNPN devices designed for high volume, line-powered consumer applications such as relay and lamp drivers, small motor controls, gate drivers for larger thyristors, and sensing and detection circuits. Supplied in an inexpensive plastic TO-92 package which is readily adaptable for use in automatic insertion equipment.



TO-92

1:CATHODE 2:GATE 3:ANODE

DESCRIPTION

- *Sensitive Gate Trigger Current - 200µA Maximum
- *Low Reverse and forward Blocking Current - 100µA Maximum, Tc=125°C
- *Low Holding Current – 5mA Maximum
- *Glass-Passivated Surface for Reliability and Uniformity
- *Also Available with TO-5 or TO-18 Lead Form

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	MAX	UNIT
Thermal Resistance, Junction to Case	$R_{\theta C}$	75	°C/W
Thermal Resistance, Junction to Ambient	$R_{\theta A}$	200	°C/W

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	MAX	UNIT
Peak Reverse Blocking Voltage	V_{RRM}		V
MCR100-4		200	
MCR100-6		400	
MCR100-8		600	
Forward Current RMS	$I_T(RMS)$	0.8	A
Peak Forward Surge Current, TA=25°C (1/2 cycle, Sine Wave, 60Hz)	I_{TSM}	10	A
Circuit Fusing Considerations, TA=25°C (t=1 to 8.3 ms)	I^2t	0.415	A ² s
Peak Gate Power – Forward, TA=25°C	PGM	0.1	W
Average Gate Power – Forward, TA=25°C	PGF(AV)	0.01	W
Peak Gate Current – Forward, TA=25°C(300µs, 120PPS)	IGFM	1	A
Peak Gate Voltage - Reverse	VGRM	5	V
Operating Junction Temperature Range @ Rated VRRM and VDRM	Tj	-65 to +110	°C
Storage Temperature Range	Tstg	-40 to +150	°C
Lead Solder Temperature (<1/16" from case, 10 s max)		230	°C

ELECTRICAL CHARACTERISTICS (T_j=25°C unless otherwise stated)

PARAMETER	SYMBOL	MIN	MAX	UNIT
Peak Forward Blocking Voltage (T _c =125°C) MCR100-4 MCR100-6 MCR100-8	VDRM	200 400 600		V
Peak Forward or Reverse Blocking Current (Rated VDRM or VRRM) T _c =25°C T _c =125°C	IDRM, IRRM		10 100	μA μA
Forward "On" Voltage (Note1) (I _{TM} =1A peak @ TA=25°C)	VTM		1.7	V
Gate Trigger Current (continuous dc) (Note 2) T _c =25 °C (Anode Voltage=7Vdc, RL=100Ω)	IGT		200	μA
Gate Trigger Voltage (continuous dc) T _c =25 °C (Anode voltage=7Vdc, RL=100Ω) T _c =-40 °C (Anode Voltage=Rated VDRM, RL=100Ω) T _c =125 °C	VGT	0.1	0.8 1.2	V
Holding Current T _c =25 °C (Anode Voltage=7Vdc, initiating current=20mA) T _c =-40 °C	IH		5 10	mA

Notes: 1. Forward current applied for 1 ms maximum duration, duty cycle <=1%
2. RGK current is not included in measurement.