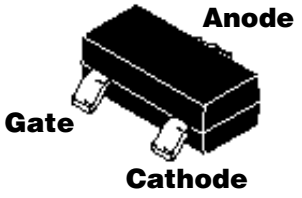
Data Sheet

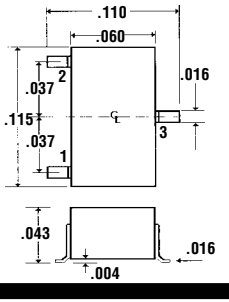
0.3 Amp Silicon Controlled Rectifiers

FCR03S Series

Description



Mechanical Dimensions



Features

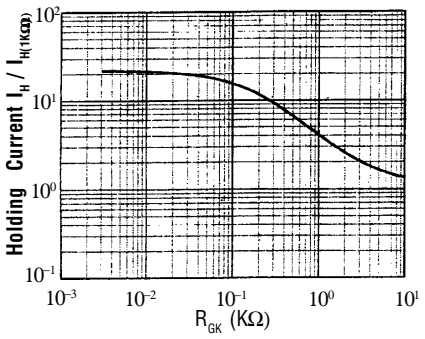
- **DIRECTLY DRIVEN WITH IC AND MOS DEVICE**
- **VOID-FREE GLASS PASSIVATED CHIPS**
- **AVAILABLE IN VOLTAGE RATINGS FROM 200 TO 600 VOLTS**
- **SENSITIVE GATE TRIGGER CURRENT**

Maximum Ratings and Electrical Characteristics

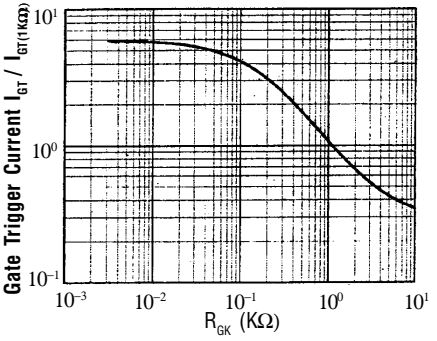
	Symbol	Value	Units
Repetitive Peak Off-State Voltage and Repetitive Peak Reverse Voltage @ T_C = 125°C	V_{DRM} V_{RRM}		Volts
FCR0320S		200	
FCR0340S		400	
FCR0360S		600	
RMS On-State Current @ T_C = 50°C and Conduction Angle of 180°	$I_{T(AV)}$	0.3	Amps
Peak-Surge On-State Current One cycle @ 50Hz or 60Hz	V_{TSM}	6	Amps
Peak Gate-Trigger Current for 3µs max.	I_{GTM}	0.1	Amps
Peak Gate-Power Dissipation @ $I_{GT} \leq I_{GTM}$	P_{GM}	0.1	Watts
Average Gate-Power Dissipation	$P_{G(AV)}$	0.05	Watts
Peak Off-State Current (1) T_C = 25°C	I_{DRM}	10	µAmps
@ Rated Reverse Voltage T_C = 125°C	I_{RRM}	200	
Maximum On-State Voltage @ T_C = 25°C and I_T = 0.3A	V_{TM}	1.7	Volts
DC Holding Current (1), Gate Open, T_C = 25°C	I_{HO}	5	mAmps
Critical Rate-Of-Rise of Off-State Voltage (1) Gate Open, T_C = 110°C	Critical dV/dt	5	Volts/µsec
DC Gate -Trigger Current for Anode (2)	I_{GT}	200	µAmps
DC Gate -Trigger Voltage for Anode (2)	V_{GT}	0.8	Volts
Gate-Controlled Turn-On Time, $t_D + t_R$ I_{GT} = 10mA, T_C = 25°C	T_{gt}	2.2	µsec
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	75	°C/Watt
Storage Temperature Range	T_{STG}	-40 to 150	°C
Operating Temperature Range	T_{OPER}	-40 to 110	°C

Notes:
(1) R_{G-K} = 1kΩ.
(2) Voltage = 7Vdc, R_L = 100Ω, T_C = 25°C.

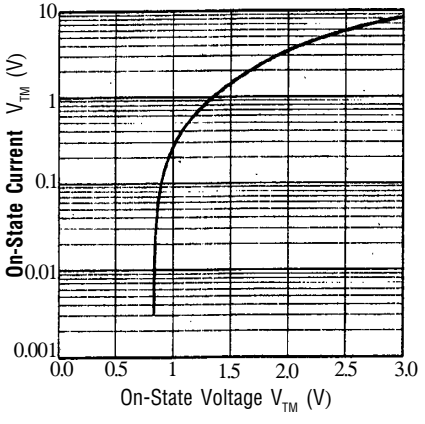
Holding Current vs R_{GK}



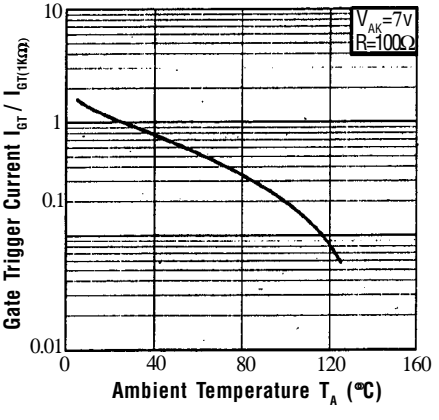
Gate Trigger Current vs R_{GK}



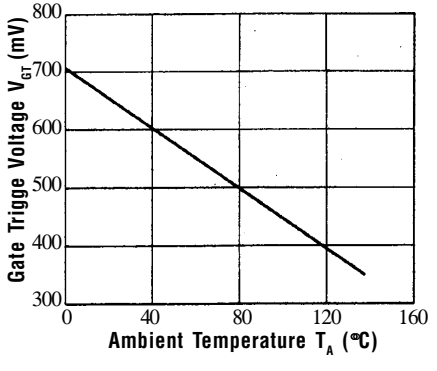
On-State Voltage vs V_{TM}



Gate Trigger Current vs T_A



Gate Trigger Voltage vs T_A



Holding Current vs T_A