SCRs
1.6 Amp, Planar

ID200-ID203
ID300-ID301

FEATURES
- Voltage Rating: to 200V
- Max. Gate Trigger Current: 200μA
- Hermetically Sealed Metal Can
- Planar Passivated Construction

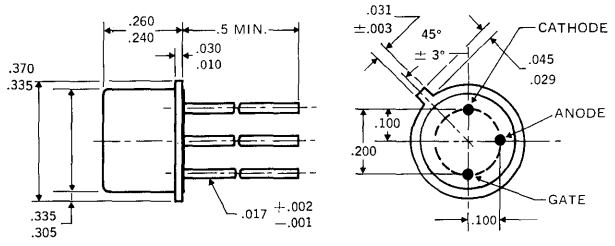
DESCRIPTION
This Data Sheet describes Unitrode's line of hermetically sealed industrial SCRs designed for high-voltage, medium-current control applications. The Series is packaged in a TO-39 metal case with Unitrode's unique oxide passivated junctions to ensure reliability and parameter stability.
Typical applications include relay equipment, motor controls, process controllers and pulse generators.

ABSOLUTE MAXIMUM RATINGS

	ID200	ID201	ID202	ID203	ID300	ID301
Repetitive Peak Off-State Voltage, V_{DRM}	50V	100V	150V	200V	300V	400V
Repetitive Peak Reverse Voltage, V_{RRM}	50V	100V	150V	200V	300V	400V
Non-Repetitive Peak Reverse Voltage, V_{RSM} (<5ms)	75V	150V	225V	300V	400V	500V
On-State Current, $I_{T(RMS)}$						
70°C Case	1.6A					
75°C Ambient	450mA					
Peak One Cycle Surge (Non-Repetitive) On-State Current, I_{TSM}	15A					
Repetitive Peak On-State Current, I_{TRM}	up to 30A					
Rate of Rise of On-State Current, di/dt	100A/μs					
I^2t (for times > 1.5 ms)	0.83A^2s					
Peak Gate Current, I_{GM}	250mA					
Average Gate Current, $I_{G(AV)}$	25mA					
Reverse Gate Voltage, V_{GR}	6V					
Storage Temperature Range	−65°C to +150°C					
Operating Temperature Range	−40°C to +110°C					

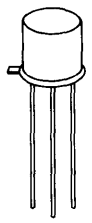
MECHANICAL SPECIFICATIONS

ID200-ID203 ID300-ID301



Dimensions in inches.

TO-39



UNITRODE

ELECTRICAL SPECIFICATIONS (at 25°C unless noted)

Test	Symbol	Min.	Typ.	Max.	Units	Test Conditions
Off-State Current	I_{DRM}	— —	— 5	10 100	μA μA	V_{DRM} = Rating, R_{GK} = 1K, T = 25°C V_{DRM} = Rating, R_{GK} = 1K, T = 110°C
Reverse Current	I_{RRM}	— —	— 10	10 100	μA μA	V_{RRM} = Rating, R_{GK} = 1K, T = 25°C V_{RRM} = Rating, R_{GK} = 1K, T = 110°C
Gate Trigger Current	I_{GT}	— —	— —	200 500	μA μA	V_D = 5V, R_{GS} = 10K, T = 25°C V_D = 5V, R_{GS} = 10K, T = −40°C
On-State Voltage	V_{GT}	0.4 0.5 0.2	0.52 0.7 —	0.8 1.0 —	V V V	V_D = 5V, R_{GS} = 100Ω, T = 25°C V_D = 5V, R_{GS} = 100Ω, T = −40°C V_D = 5V, R_{GS} = 100Ω, T = 110°C
Peak On — Voltage	V_{TM}	—	—	2.2	V	I_T = 4 Amp Pulse, T = 25°C
Holding Current	I_H	0.3 0.4 0.2	0.7 — —	3.0 6.0 —	mA mA mA	R_{GK} = 1K, T = 25°C R_{GK} = 1K, T = −40°C R_{GK} = 1K, T = 110°C
Off-State Voltage — Critical Rate of Rise	dv/dt	—	20	—	V/μs	V_{DRM} = Rated, R_{GK} = 1K, T = 110°C
Turn-on Time	t_{on}	—	1.0	—	μs	I_G = 10mA, I_T = I_A, V_D = 30V, T = 25°C
Circuit Commutated Turn-off Time	t_q	—	—	40	μs	I_T = i_R = 1A, R_{GK} = 1K, T = 25°C

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.