FEATURES

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

DESCRIPTION

This Data Sheet describes Microsemi's line of hermetically sealed industrial SCRs designed for high-voltage, medium-current control applications. The Series is packaged in a T0-39 metal case with Microsemi's unique oxide passivated junctions to ensure reliability and parameter stability.

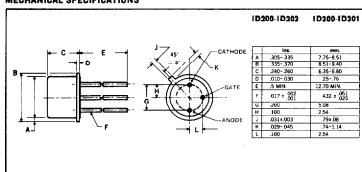
Typical applications include relay equipment, motor controls, process controllers and pulse generators.

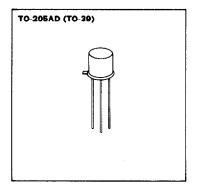
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ABSOLUTE MAXIMUM RATINGS

	1D300	10201	1D202	10203	15300	10301
Repetitive Peak Off-State Voltage, VDRM	50V	100V	150V	200V	300V	400V
Repetitive Peak Reverse Voltage, VRRM	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			1.6	A		
75°C Ambient			450	mA		
Peak One Cycle Surge (Non-Repetitive) On-State C	urrent, Irsu		15	A		
Peak One Cycle Surge (Non-Repetitive) On-State C Repetitive Peak On-State Current, I _{TRM}			up to	30A		
Rate of Rise of On-State Current, di/dt			100A	/μS		
I ² t (for times > 1.5 ms)	.,,		0.83	A²s		
Peak Gate Current, I _{GM}	.,,		250	mA		
Average Gate Current, I _{G(AV)}			25r	nA		
Reverse Gate Voltage, VGR			6	<i>I</i>		
Storage Temperature Range			65°C to	+150°C		***************************************
Operating Temperature Range			40°C to	+110°C		

MECHANICAL SPECIFICATIONS







ELECTRICAL SPECIFICATIONS (at 25°C unless noted)

Test	Symbol	Min.	Тур.	Max.	Units	Test Conditions
Off-State Current	IDRM	=	5	10 100	μ Α μ Α	$V_{DRM} = Rating, R_{GK} = 1K, T = 25^{\circ}C$ $V_{DRM} = Rating, R_{GK} = 1K, T = 110^{\circ}C$
Reverse Current	I _{RRM}		10	10 100	μ A μ A	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	μ A μ A	$V_D = 5V$, $R_{GS} = 10K$, $T = 25^{\circ}C$ $V_D = 5V$, $R_{GS} = 10K$, $T = -40^{\circ}C$
On-State Voltage	V _{GT}	0.4 0.5 0.2	0.52 0.7	0.8 1.0	V V	$V_D = 5V$, $R_{GS} = 100\Omega$, $T = 25^{\circ}$ C $V_D = 5V$, $R_{GS} = 100\Omega$, $T = -40^{\circ}$ C $V_D = 5V$, $R_{GS} = 100\Omega$, $T = 110^{\circ}$ C
Peak On — Voltage	V _{TM}		_	2.2	V	I _T = 4 Amp Pulse, T = 25°C
Holding Current	1 _H	0.3 0.4 0.2	0.7	3.0 6.0	mA mA mA	$R_{GK} = 1K, T = 25^{\circ}C$ $R_{GK} = 1K, T = -40^{\circ}C$ $R_{GK} = 1K, T = 110^{\circ}C$
Off-State Voltage — Critical Rate of Rise	dv/dt	_	20	_	V/μs	V _{DRM} = Rated, R _{CK} = 1K, T = 110°C
Turn-on Time	t _{on}		1.0	-	μS	$I_G = 10 \text{mA}, I_T = I_A, V_D = 30 \text{V}, T = 25 ^{\circ}\text{C}$
Circuit Commutated Turn-off Time	t _q	_	_	40	μS	$I_T = I_R = 1A, R_{GK} = 1K, T = 25^{\circ}C$

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.