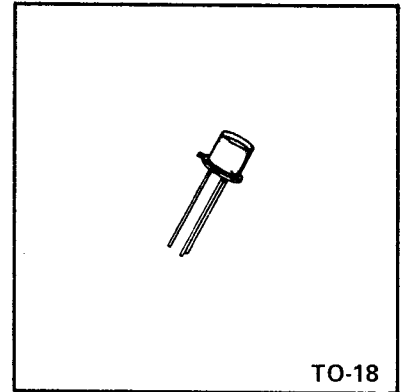


SILICON PLANAR

REVERSE BLOCKING TRIODE THYRISTORS

(SCRs)



DESIGN FEATURES

- Gate sensitivity 1000 μ A
- Blocking voltage to 300 V
- Peak pulse current to 40 A
- dv/dt typically greater than 100 V/ μ s
- Operating temperature to +125°C

Transitron's RTC0201 series is designed specifically for those military and industrial applications where excellent electrical performance and high reliability are companion requirements. These SCRs are exceptionally well suited to such military and industrial applications as solenoid and lamp drivers, temperature controllers, voltage and current sensing, motor control, and many other current and voltage switching requirements.

REPETITIVE PEAK OFF-STATE VOLTAGE (V_{DRM}) and REPETITIVE PEAK REVERSE VOLTAGE (V_{RRM})

Symbol	RTC 0201	RTC 0203	RTC 0206	RTC 0210	RTC 0215	RTC 0220	RTC 0225	RTC 0230	Test Conditions
V_{DRM} – VOLTS	15	30	60	100	150	200	250	300	$T_A = 125^\circ\text{C}$ & $R_{GK} = 1.0$ kilohms
V_{RRM} – VOLTS	15	30	60	100	150	200	250	300	

ABSOLUTE MAXIMUM RATINGS @ $T_A = 80^\circ\text{C}$

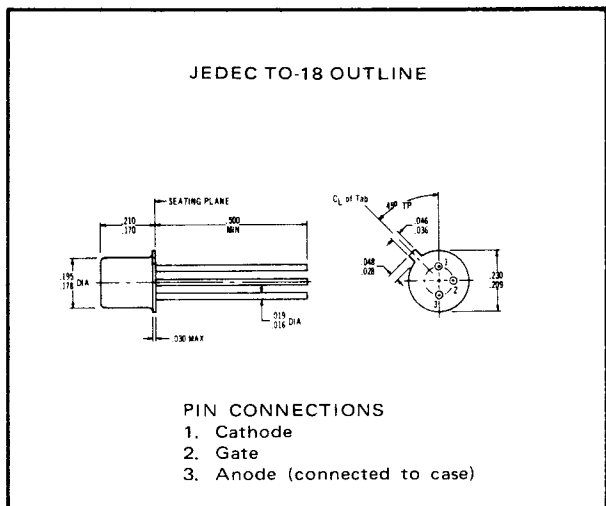
Definitions	Symbol	Limits
Average On-State Current	$I_{T(AV)}$	250 mA
RMS On-State Current	$I_{T(RMS)}$	400 mA
Peak One-Cycle Surge Current (60 Hz)	I_{TSM}	5.0 A
Peak Reverse Gate Voltage	V_{GRM}	5.0 V
Peak Gate Power	P_{GM}	200 mW
Average Gate Power	$P_{G(AV)}$	20 mW
Operating Temperature Range	T_{op}	-65 to +125°C
Storage Temperature Range	T_{stg}	-65 to +150°C

ELECTRICAL CHARACTERISTICS

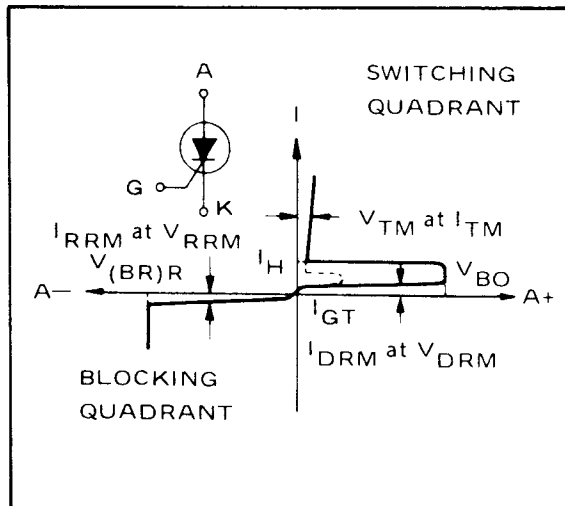
PARAMETERS			LIMITS		TEST CONDITIONS			
Symbol	Units	Definitions	Min.	Max.	T °C	R _{GK} ohms	V _{AA} volts	Other Conditions
V _{TM}	Volts	Max. On-State Voltage	—	2.5	25	—	—	I _{TM} = 250 mA peak
I _{DRM}	μA	Rep. Peak Off-State Voltage	—	250 1000	25 125	1K 1K	V _{DRM} V _{DRM}	
I _{RRM}	μA	Rep. Peak Reverse Current	—	250 1000	25 125	1K 1K	V _{RRM} V _{RRM}	
I _{GT}	μA	Gate Trigger Current	—	1000	25	∞	5	
V _{GT}	Volts	Gate Trigger Voltage	—	1.0	25	∞	5	
I _H	mA	Holding Current	—	10	25	1K	5	
I _{GR}	μA	Gate Reverse Current	—	10	25	∞	OPEN	V _{GC} = -5 Volts
dv/dt	V/μs	Rate of rise of V _{DRM}	100*	—	25	1K	V _{DRM}	

*Typical

PACKAGING DATA



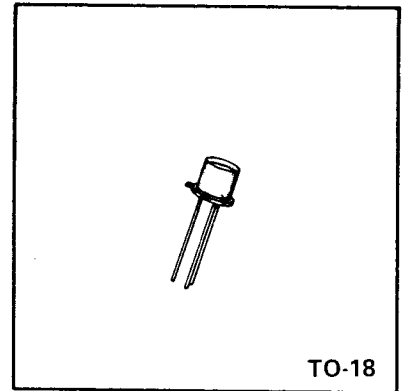
V-I CHARACTERISTICS



SILICON PLANAR

REVERSE BLOCKING TRIODE THYRISTORS

(SCRs)



DESIGN FEATURES

- Gate sensitivity 100 μ A
- Blocking voltage to 300 V
- Peak pulse current to 40 A
- dv/dt typically greater than 100 V/ μ s
- Operating temperature to +125°C

Transitron's RTC0401 series is designed specifically for those military and industrial applications where excellent electrical performance and high reliability are companion requirements. These SCRs are exceptionally well suited to such military and industrial applications as solenoid and lamp drivers, temperature controllers, voltage and current sensing, motor control, and many other current and voltage switching requirements.

REPETITIVE PEAK OFF-STATE VOLTAGE (V_{DRM}) and REPETITIVE PEAK REVERSE VOLTAGE (V_{RRM})

Symbol	RTC 0401	RTC 0403	RTC 0406	RTC 0410	RTC 0415	RTC 0420	RTC 0425	RTC 0430	Test Conditions
V_{DRM} - VOLTS	15	30	60	100	150	200	250	300	$T_A = 125^\circ\text{C}$ & $R_{GK} = 1.0 \text{ kilohms}$
V_{RRM} - VOLTS	15	30	60	100	150	200	250	300	

ABSOLUTE MAXIMUM RATINGS @ $T_A = 80^\circ\text{C}$

Definitions	Symbol	Limits
Average On-State Current	$I_{T(AV)}$	250 mA
RMS On-State Current	$I_{T(RMS)}$	400 mA
Peak One-Cycle Surge Current (60 Hz)	I_{TSM}	5.0 A
Peak Reverse Gate Voltage	V_{GRM}	5.0 V
Peak Gate Power	P_{GM}	200 mW
Average Gate Power	$P_{G(AV)}$	20 mW
Operating Temperature Range	T_{op}	-65 to +125°C
Storage Temperature Range	T_{stg}	-65 to +150°C

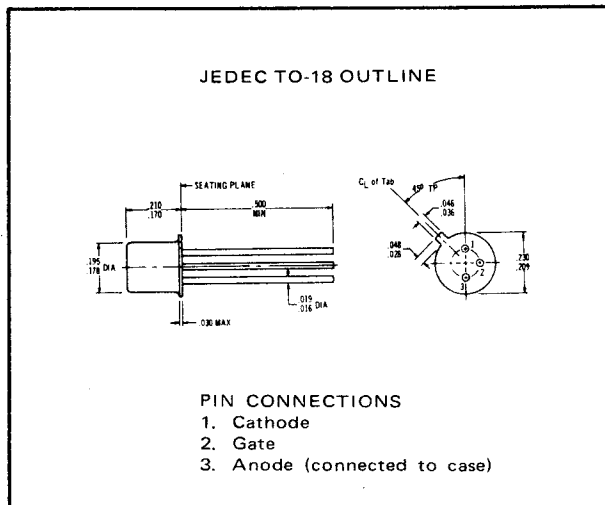
ELECTRICAL CHARACTERISTICS

PARAMETERS			LIMITS		TEST CONDITIONS			
Symbol	Units	Definitions	Min.	Max.	T °C	R _{GK} ohms	V _{AA} volts	Other Conditions
V _{TM}	Volts	Max. On-State Voltage	—	1.5	25	—	—	I _{TM} = 250 mA peak
I _{DRM}	μA	Rep. Peak Off-State Voltage	—	10 100	25 125	1K 1K	V _{DRM} V _{DRM}	
I _{RRM}	μA	Rep. Peak Reverse Current	—	10 100	25 125	1K 1K	V _{RRM} V _{RRM}	
I _{GT}	μA	Gate Trigger Current	—	100	25	∞	5	
V _{GT}	Volts	Gate Trigger Voltage	—	0.8	25	∞	5	
I _H	mA	Holding Current	—	5.0	25	1K	5	
I _{GR}	μA	Gate Reverse Current	—	10	25	∞	OPEN	V _{GC} = -5 Volts
dv/dt	V/μs	Rate of rise of V _{DRM}	100*	—	25	1K	V _{DRM}	

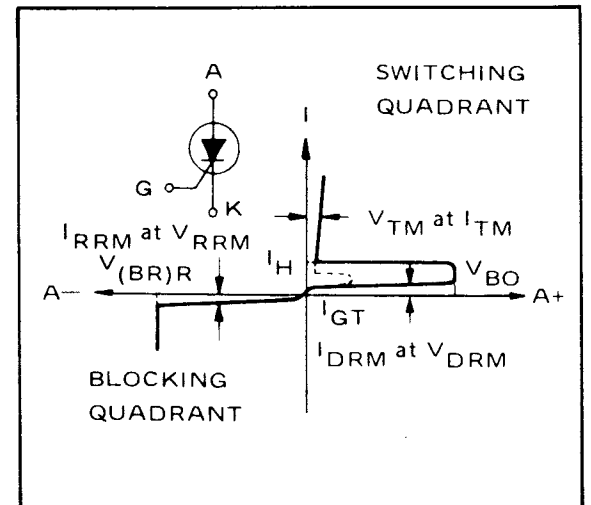
*Typical

NOTE
 FOR CHARACTERISTIC CURVES FOR THIS FAMILY REFER
 TO THE END OF THIS GROUP OF SPECIFICATIONS.

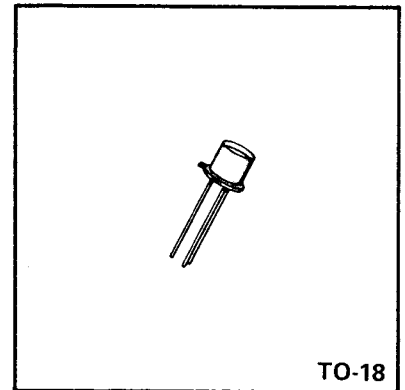
PACKAGING DATA



V-I CHARACTERISTICS



SILICON PLANAR REVERSE BLOCKING TRIODE THYRISTORS (SCRs)



DESIGN FEATURES

- High Gate Sensitivity
- Operation to 125°C
- Low Holding Current

Transitron's hermetically sealed, RTC0801 SCR series is designed specifically for those industrial and consumer applications where excellent electrical performance and high reliability are companion requirements. These SCR's are exceptionally well suited to such applications as solenoid and lamp drivers, temperature controllers, voltage and current sensing, motor control, and many other current and voltage switching requirements.

REPETITIVE PEAK OFF-STATE VOLTAGE (V_{DRM}) and REPETITIVE PEAK REVERSE VOLTAGE (V_{RRM})

Symbol	RTC 0801	RTC 0803	RTC 0806	RTC 0810	RTC 0815	RTC 0820	Test Conditions
V_{DRM} – VOLTS	15	30	60	100	150	200	$T_A = 125^\circ\text{C}$ & $R_{GK} = 1 \text{ K}\Omega$
V_{RRM} – VOLTS	15	30	60	100	150	200	

ABSOLUTE MAXIMUM RATINGS @ $T_C = 80^\circ\text{C}$

Definitions	Symbol	Limits
Average On-State Current	$I_{T(AV)}$	250 mA
RMS On-State Current	$I_{T(RMS)}$	400 mA
Peak One-Cycle Surge Current (60 Hz)	I_{TSM}	5.0 A
Peak Reverse Gate Voltage	V_{GRM}	5.0 V
Peak Gate Power	P_{GM}	200 mW
Average Gate Power	$P_{G(AV)}$	20 mW
Operating Temperature Range	T_{op}	-65 to +125°C
Storage Temperature Range	T_{stg}	-65 to +150°C

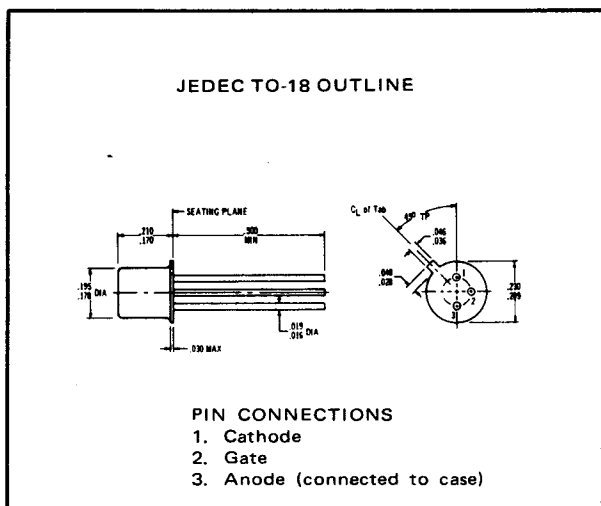
ELECTRICAL CHARACTERISTICS

PARAMETERS			LIMITS		TEST CONDITIONS			
Symbol	Units	Definitions	Min.	Max.	T °C	RGK ohms	VAA volts	Test Conditions
V _{TM}	Volts	Max. On-State Voltage	—	1.2	25	—	—	I _{TM} = 250 mA peak
I _{DRM}	μA	Rep. Peak Off-State Current	—	0.02	25	1K	V _{DRM}	
			—	20	125	1K	V _{DRM}	
I _{RRM}	μA	Rep. Peak Reverse Current	—	0.02	25	1K	V _{RRM}	
			—	20	125	1K	V _{RRM}	
I _{GT}	μA	Gate Trigger Current	—	2.0	25	∞	6	
V _{GT}	Volts	Gate Trigger Voltage	—	0.7	25	∞	6	
I _H	mA	Holding Current	—	1.0	25	1K	6	
I _{GR}	μA	Gate Reverse Current	—	10	25	∞	OPEN	V _{GC} = -5 volts
dv/dt	V/μs	Rate of rise of V _{DRM}	100*	—	25	1K	V _{DRM}	

*Typical

NOTE
 FOR CHARACTERISTIC CURVES FOR THIS FAMILY REFER
 TO THE END OF THIS GROUP OF SPECIFICATIONS.

PACKAGING DATA



V-I CHARACTERISTICS

