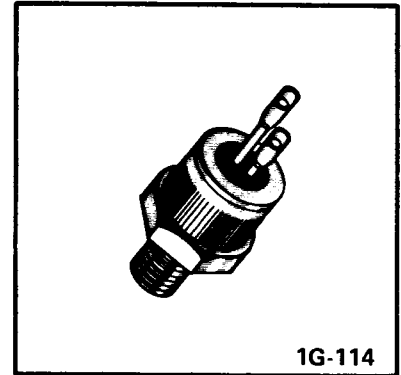


BIDIRECTIONAL TRIODE THYRISTOR (TRIAC)



DESIGN FEATURES

- Gate sensitivity 100 mA
- Blocking voltage to 600 V
- dv/dt typically greater than $100V/\mu s$

Transitron's hermetically sealed BTU04 series Triacs are ideally suited for those AC switching applications requiring excellent performance and optimum economy. Applications include speed and temperature controllers, lamp dimmers and many relay-replacement functions.

REPETITIVE OFF-STATE VOLTAGE (V_{DRM})

Symbol	BTU 0405	BTU 0410	BTU 0420	BTU 0430	BTU 0440	BTU 0450	BTU 0460	Test Conditions
V_{DRM} - VOLTS	50	100	200	300	400	500	600	$T_C = 100^\circ C$

SEE PAGE 1-16 FOR EUROPEAN PRO-ELECTRON TYPE NUMBER CROSS REFERENCE.

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

Definitions	Symbol	Limits
RMS On-State Current	$I_T(RMS)$	10 A
Peak One-Cycle Surge Current (60 Hz)	I_{TSM}	100 A
Peak Gate Power	P_{GM}	5 W
Average Gate Power	$P_{G(AV)}$	250 mW
Operating Temperature Range	T_{op}	-65 to +100°C
Storage Temperature Range	T_{stg}	-65 to +125°C

10 AMP TRIAC

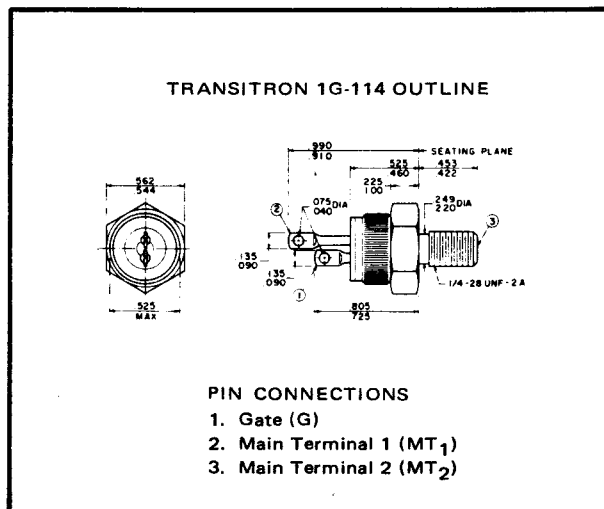
ELECTRICAL CHARACTERISTICS

PARAMETERS			LIMITS		TEST CONDITIONS			
Symbol	Units	Definitions	Min.	Max.	T °C	RGK ohms	VAA volts	Other Conditions
V_{TM}	Volts	Max. On-State Voltage	—	1.5	25	—	—	$I_{TM} = 10$ A peak
I_{DRM}	mA	Rep. Peak Off-State Current	—	5.0	100	∞	V_{DRM}	
I_{GT}	mA	Gate Trigger Current	—	100	25	∞	12	All 4 quadrants
V_{GT}	Volts	Gate Trigger Voltage	—	3.0	25	∞	12	All 4 quadrants
I_H	mA	Holding Current	—	50	25	∞	12	
dv/dt	V/ μ s	Rate of rise of V_{DRM}	100*	—	100	∞	V_{DRM}	

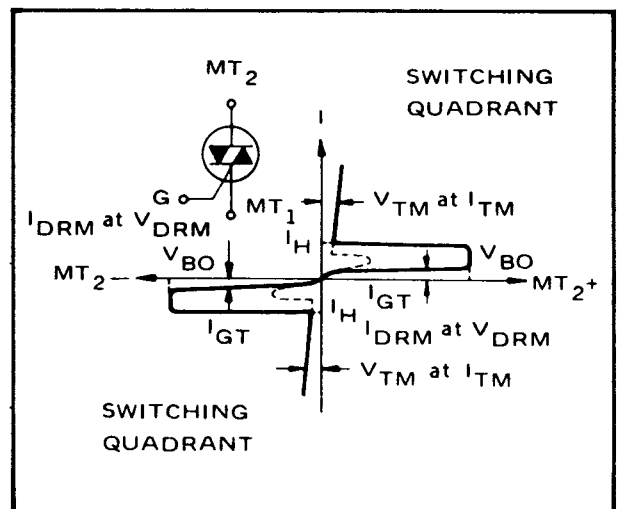
*Typical

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

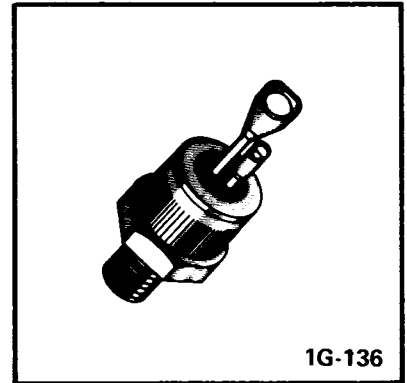
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V-I CHARACTERISTICS



BIDIRECTIONAL TRIODE THYRISTOR (TRIAC)



1G-136

DESIGN FEATURES

- Current range to 15 A RMS
- Operating temperature to +100°C
- 150 A surge rating

Transitron's hermetically sealed BTU05 series Triacs are ideally suited for those AC switching applications requiring excellent performance and optimum economy. Applications include speed and temperature controllers, lamp dimmers and many relay-replacement functions.

REPETITIVE OFF-STATE VOLTAGE (V_{DRM})

Symbol	BTU 0505	BTU 0510	BTU 0520	BTU 0530	BTU 0540	BTU 0550	BTU 0560	Test Conditions
V_{DRM} - VOLTS	50	100	200	300	400	500	600	$T_C = 100^\circ\text{C}$

SEE PAGE 1-16 FOR EUROPEAN PRO-ELECTRON TYPE NUMBER CROSS REFERENCE.

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

Definitions	Symbol	Limits
RMS On-State Current	$I_T(\text{RMS})$	15 A
Peak One-Cycle Surge Current (60 Hz)	I_{TSM}	150 A
Peak Gate Power	PGM	5 W
Average Gate Power	$P_{G(AV)}$	250 mW
Operating Temperature Range	T_{op}	-65 to +100°C
Storage Temperature Range	T_{stg}	-65 to +125°C

15 AMP TRIAC

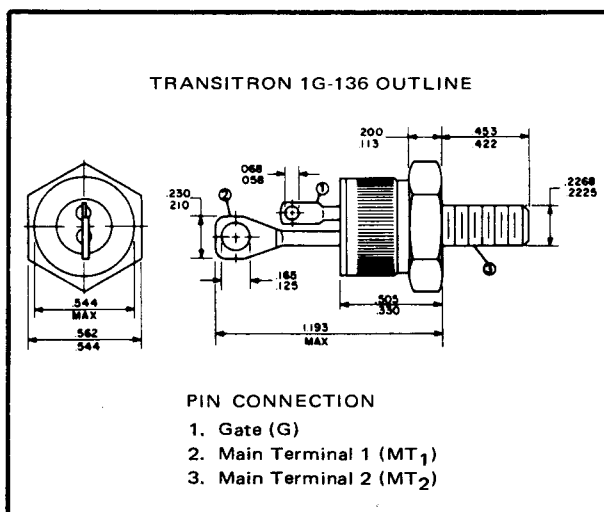
ELECTRICAL CHARACTERISTICS

PARAMETERS			LIMITS		TEST CONDITIONS			
Symbol	Units	Definitions	Min.	Max.	T °C	RGK ohms	VAA volts	Other Conditions
V_{TM}	Volts	Max. On-State Voltage	—	1.9	25	—	—	$I_{TM} = 15$ A peak
I_{DRM}	mA	Rep. Peak Off-State Current	—	5	100	∞	V_{DRM}	
I_{GT}	mA	Gate Trigger Current	—	100	25	∞	12	All 4 quadrants
V_{GT}	Volts	Gate Trigger Voltage	—	3.0	25	∞	12	All 4 quadrants
I_H	mA	Holding Current	—	50	25	∞	12	
dv/dt	V/ μ s	Rate of rise of V_{DRM}	100*	—	100	∞	V_{DRM}	

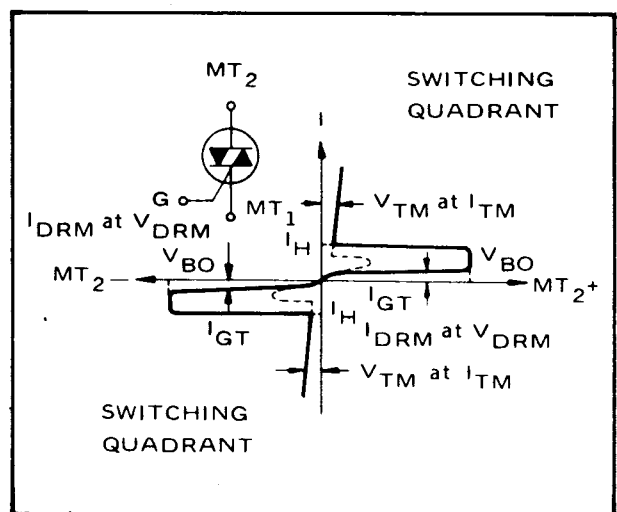
*Typical

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

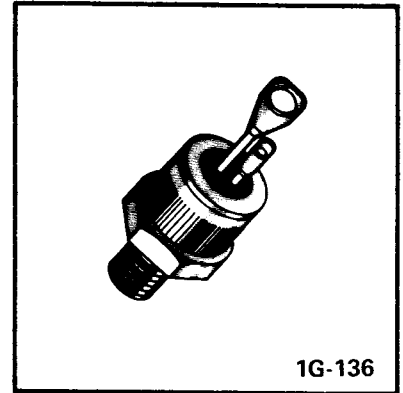
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V-I CHARACTERISTICS



BIDIRECTIONAL TRIODE THYRISTOR (TRIAC)



DESIGN FEATURES

- Gate sensitivity 100 mA
- Current range to 25 A RMS
- Operating temperature to +100°C

Transitron's hermetically sealed BTU06 series Triacs are ideally suited for those AC switching applications requiring excellent performance and optimum economy. Applications include speed and temperature controllers, lamp dimmers and many relay-replacement functions.

REPETITIVE OFF-STATE VOLTAGE (V_{DRM})

Symbol	BTU 0605	BTU 0610	BTU 0620	BTU 0630	BTU 0640	BTU 0650	BTU 0660	Test Conditions
V_{DRM} - VOLTS	50	100	200	300	400	500	600	$T_C = 100^\circ\text{C}$

SEE PAGE 1-16 FOR EUROPEAN PRO-ELECTRON TYPE NUMBER CROSS REFERENCE.

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

Definitions	Symbol	Limits
RMS On-State Current	$I_T(\text{RMS})$	25 A
Peak One-Cycle Surge Current (60 Hz)	I_{TSM}	200 A
Peak Gate Power	PGM	5 W
Average Gate Power	PG(AV)	250 mW
Operating Temperature Range	T_{op}	-65 to +100°C
Storage Temperature Range	T_{stg}	-65 to +125°C

25 AMP TRIAC

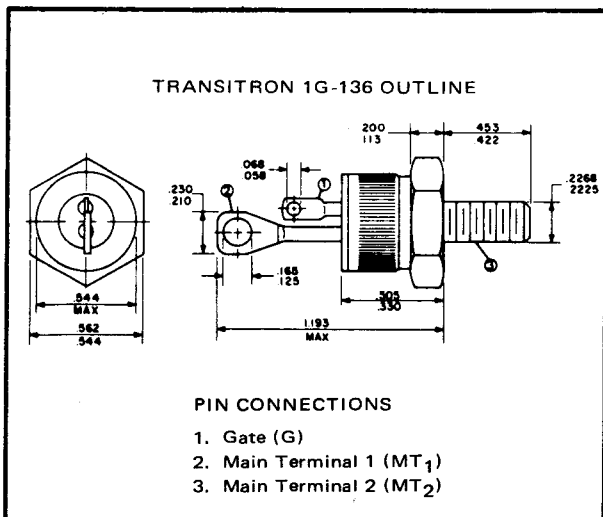
ELECTRICAL CHARACTERISTICS

PARAMETERS			LIMITS		TEST CONDITIONS			
Symbol	Units	Definitions	Min.	Max.	T °C	RGK ohms	VAA volts	Other Conditions
V _{TM}	Volts	Max. On-State Voltage	—	1.9	25	—	—	I _{TM} = 25 A peak
I _{DRM}	mA	Rep. Peak Off-State Current	—	5.0	100	∞	V _{DRM}	
I _{GT}	mA	Gate Trigger Current	—	100	25	∞	12	All 4 quadrants
V _{GT}	Volts	Gate Trigger Voltage	—	3.0	25	∞	12	All 4 quadrants
I _H	mA	Holding Current	—	100	25	∞	12	
dv/dt	V/μs	Rate of rise of V _{DRM}	100*	—	100	∞	V _{DRM}	

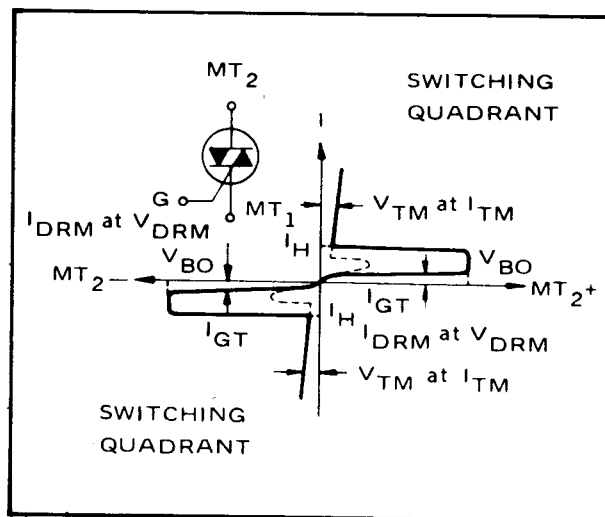
*Typical

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

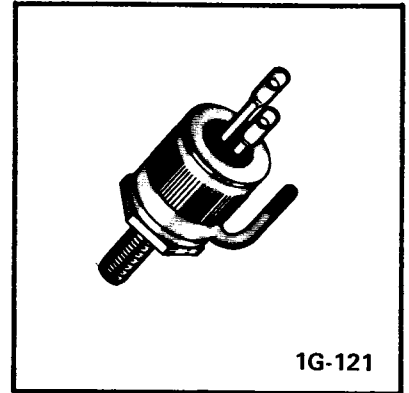
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V-I CHARACTERISTICS



ISOLATED CASE BIDIRECTIONAL TRIODE THYRISTOR (TRIAC)



DESIGN FEATURES

- Gate sensitivity 100 mA all quadrants
- Blocking voltage to 600 V
- Isolated case design

Transitron's hermetically sealed BTV04 series Triacs are ideally suited for those AC switching applications requiring excellent performance and optimum economy. Applications include speed and temperature controllers, lamp dimmers and many relay-replacement functions.

REPETITIVE OFF-STATE VOLTAGE (V_{DRM})

Symbol	BTV 0410	BTV 0420	BTV 0430	BTV 0440	BTV 0450	BTV 0460	Test Conditions
V_{DRM} - VOLTS	100	200	300	400	500	600	$T_C = 100^\circ\text{C}$

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

Definitions	Symbol	Limits
RMS On-State Current	$I_T(\text{RMS})$	10 A
Peak One-Cycle Surge Current (60 Hz)	I_{TSM}	100 A
Peak Gate Power	P _{GM}	5 W
Average Gate Power	P _{G(AV)}	250 mW
Operating Temperature Range	T_{op}	-65 to +100°C
Storage Temperature Range	T_{stg}	-65 to +125°C

10 AMP ISOLATED CASE TRIAC

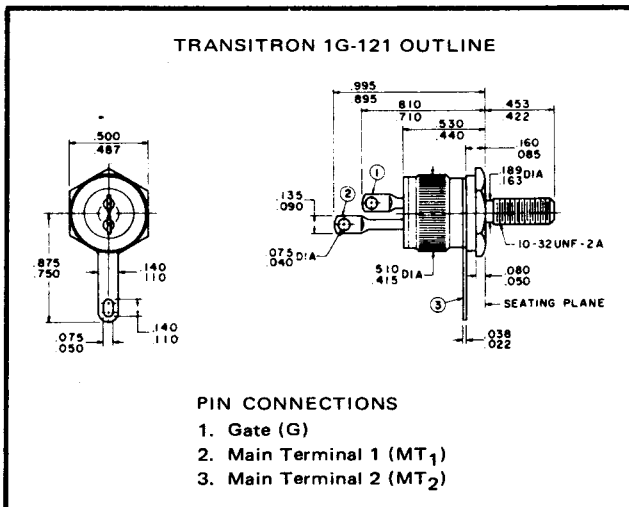
ELECTRICAL CHARACTERISTICS

PARAMETERS			LIMITS		TEST CONDITIONS			
Symbol	Units	Definitions	Min.	Max.	T °C	RGK ohms	VAA volts	Other Conditions
V _{TM}	Volts	Max. On-State Voltage	—	1.6	25	—	—	I _{TM} = 10 A peak
I _{DRM}	mA	Rep. Peak Off-State Current	—	5.0	100	∞	V _{DRM}	
I _{GT}	mA	Gate Trigger Current	—	100	25	∞	12	All 4 quadrants
V _{GT}	Volts	Gate Trigger Voltage	—	3.0	25	∞	12	All 4 quadrants
I _H	mA	Holding Current	—	50	25	∞	12	
dv/dt	V/μs	Rate of rise of V _{DRM}	100*	—	100	∞	V _{DRM}	

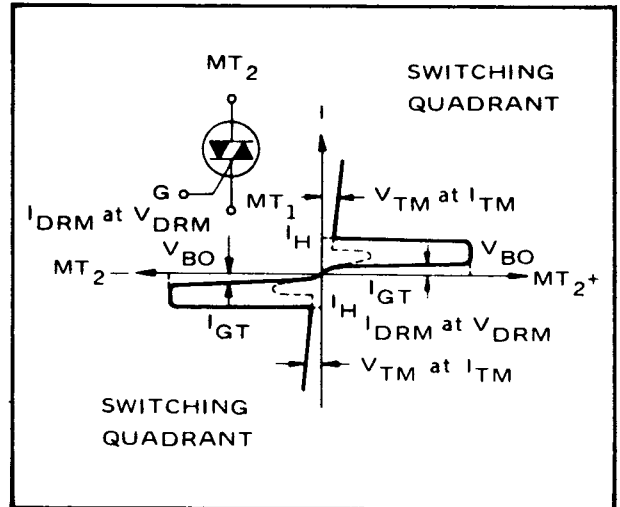
*Typical

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

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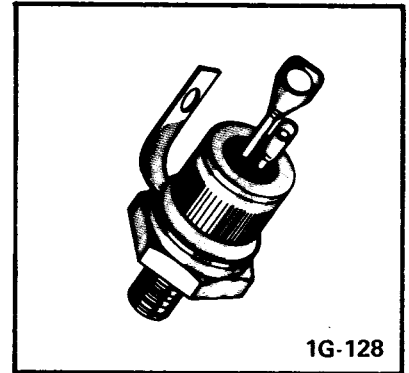


V-I CHARACTERISTICS



15 AMP ISOLATED CASE TRIAC

ISOLATED CASE BIDIRECTIONAL TRIODE THYRISTOR (TRIAC)



DESIGN FEATURES

- Blocking voltage to 600 V
- Current range to 15 A RMS
- Operating temperature to +100°C

Transitron's hermetically sealed BTX05 series Triacs are ideally suited for those AC switching applications requiring excellent performance and optimum economy. Applications include speed and temperature controllers, lamp dimmers and many relay-replacement functions.

REPETITIVE OFF-STATE VOLTAGE (V_{DRM})

Symbol	BTX 0510	BTX 0520	BTX 0530	BTX 0540	BTX 0550	BTX 0560	Test Conditions
V _{DRM} – VOLTS	100	200	300	400	500	600	T _C = 100°C

ABSOLUTE MAXIMUM RATINGS @ T_C = 80°C

Definitions	Symbol	Limits
RMS On-State Current	I _{T(RMS)}	15 A
Peak One-Cycle Surge Current (60 Hz)	I _{TSM}	100 A
Peak Gate Power	P _{GM}	5 W
Average Gate Power	P _{G(AV)}	250 mW
Operating Temperature Range	T _{op}	-65 to +100°C
Storage Temperature Range	T _{stg}	-65 to +125°C

15 AMP ISOLATED CASE TRIAC

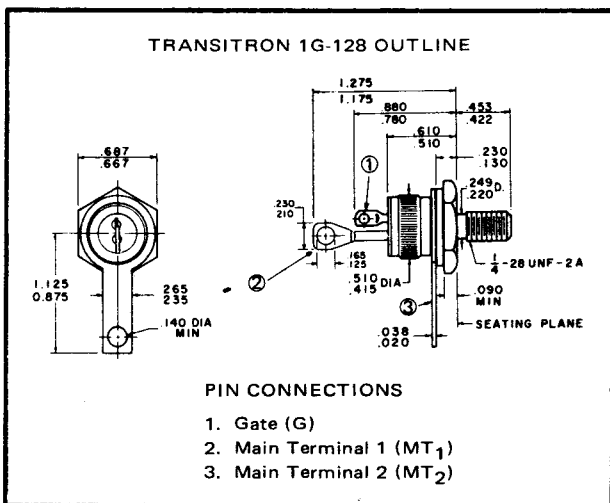
ELECTRICAL CHARACTERISTICS

PARAMETERS			LIMITS		TEST CONDITIONS			
Symbol	Units	Definitions	Min.	Max.	T °C	RGK ohms	VAA volts	Other Conditions
V_{TM}	Volts	Max. On-State Voltage	—	1.9	25	—	—	$I_{TM} = 15 \text{ A peak}$
I_{DRM}	mA	Rep. Peak Off-State Current	—	5.0	100	∞	V_{DRM}	
I_{GT}	mA	Gate Trigger Current	—	100	25	∞	12	All 4 quadrants
V_{GT}	Volts	Gate Trigger Voltage	—	3.0	25	∞	12	All 4 quadrants
I_H	mA	Holding Current	—	50	25	∞	12	
dv/dt	V/ μ s	Rate of rise of V_{DRM}	100*	—	100	∞	V_{DRM}	

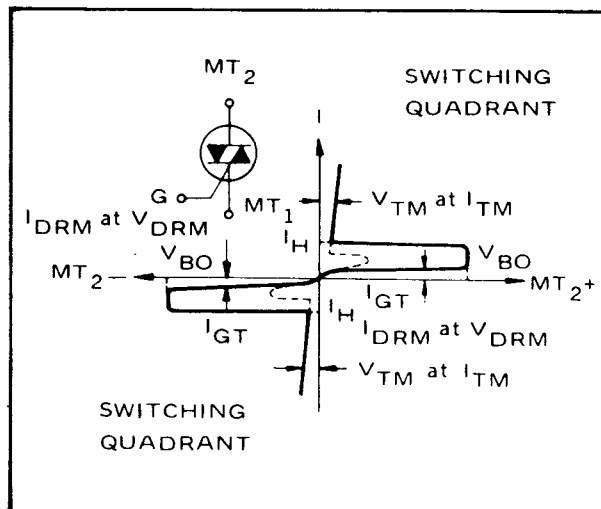
*Typical

NOTE
 FOR CHARACTERISTIC CURVES FOR THIS FAMILY REFER
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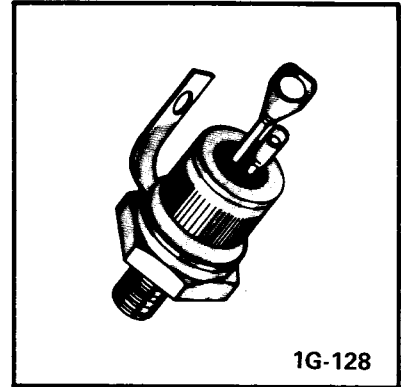


V-I CHARACTERISTICS



25 AMP ISOLATED CASE TRIAC

**ISOLATED CASE
 BIDIRECTIONAL TRIODE
 THYRISTOR (TRIAC)**



DESIGN FEATURES

- Blocking voltage to 600 V
- Current range to 25 A RMS
- Operating temperature to + 100° C

Transitron's hermetically sealed BTX06 series Triacs are ideally suited for those AC switching applications requiring excellent performance and optimum economy. Applications include speed and temperature controllers, lamp dimmers and many relay-replacement functions.

REPETITIVE OFF-STATE VOLTAGE (V_{DRM})

Symbol	BTX 0610	BTX 0620	BTX 0630	BTX 0640	BTX 0650	BTX 0660	Test Conditions
V_{DRM} – VOLTS	100	200	300	400	500	600	$T_C = 100^\circ\text{C}$

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

Definitions	Symbol	Limits
RMS On-State Current	$I_T(\text{RMS})$	25 A
Peak One-Cycle Surge Current (60 Hz)	I_{TSM}	150 A
Peak Gate Power	P_{GM}	5 W
Average Gate Power	$P_{G(AV)}$	250 mW
Operating Temperature Range	T_{op}	-65 to +100°C
Storage Temperature Range	T_{stg}	-65 to +125°C

25 AMP ISOLATED CASE TRIAC

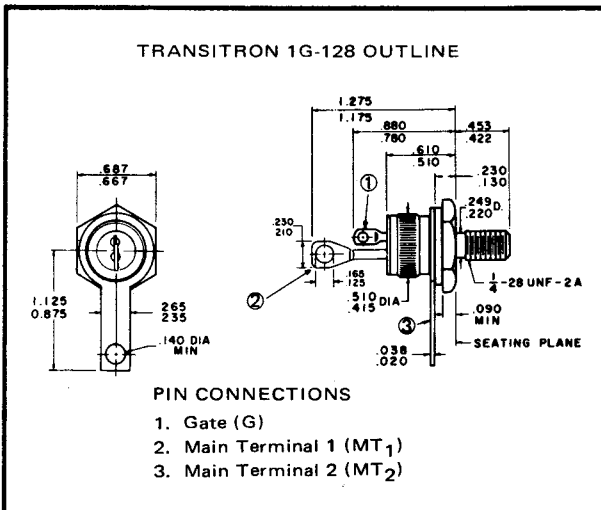
ELECTRICAL CHARACTERISTICS

PARAMETERS			LIMITS		TEST CONDITIONS			
Symbol	Units	Definitions	Min.	Max.	T °C	RGK ohms	VAA volts	Other Conditions
V _{TM}	Volts	Max. On-State Voltage	—	1.9	25	—	—	I _{TM} = 25 A peak
I _{DRM}	mA	Rep. Peak Off-State Current	—	5.0	100	∞	V _{DRM}	
I _{GT}	mA	Gate Trigger Current	—	100	25	∞	12	All 4 quadrants
V _{GT}	Volts	Gate Trigger Voltage	—	3.0	25	∞	12	All 4 quadrants
I _H	mA	Holding Current	—	50	25	∞	12	
dv/dt	V/μs	Rate of rise of V _{DRM}	100*	—	100	∞	V _{DRM}	

*Typical

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

PACKAGING DATA



V-I CHARACTERISTICS

