RCA
Solid State
Division

Thyristors

T2306 T2716 T4117 T6416
T2316 T4106 T4706 T6417
T2706 T4107 T6406
T2806 T4116 T6407

Series

2.5–40-A, 100–600-V SILICON TRIACS DESIGNED FOR USE WITH IC ZERO-VOLTAGE SWITCHES AS TRIGGERING CIRCUITS

For Power-Control and Switching Applications at Frequencies of 50 to 60 Hz

These triacs are gate-controlled full-wave ac switches. They are intended for ac load-control applications such as heating controls (proportional or on-off); lamp switching, motor switching, and a wide variety of power-control applications.

The RCA CA3058, CA3059, and CA3079 are monolithic silicon IC zero-voltage switches designed for direct operation from the ac line. They can drive the triac gate directly and provide the gating signal at zero-voltage crossings for minimum radio-frequency interference.

These triacs have gate characteristics which assure that the zero-voltage switch can supply sufficient drive current to trigger them over the operating-temperature range from -40°C to +85°C. Ratings within this group of triacs range from 2.5 to 40 amperes rms on-state current, with repetitive off-state voltages available from 100 to 600 volts; and they employ a wide variety of packages.

RATINGS AND CHARACTERISTICS

Type No.	Former RCA Type No.	Rep. Peak Off-State Voltage V_{DROM} (V)	RMS On-State Current $I_{T(RMS)}$ at Case Temp. (A)	(°C)	Typ. DC Holding Current at 25°C, I_{HO} (mA)	Max. DC Gate Trigger Current and Voltage at 25°C[Δ] I^+ I_{GT} (mA)	I^+ V_{GT} (V)	III^+ I_{GT} (mA)	III^+ V_{GT} (V)	Package	For Additional Data, Refer to Bulletin File No.*
T2316A	40693	100	2.5	70	6	45	1.5	45	1.5	Mod. TO-5 on Heat Radiator	414
T2316B	40694	200	2.5	70	6	45	1.5	45	1.5	"	414
T2316D	40695	400	2.5	70	6	45	1.5	45	1.5	"	414
T2306A	40696	100	2.5	70	6	45	1.5	45	1.5	Mod. TO-5	414
T2306B	40697	200	2.5	70	6	45	1.5	45	1.5	"	414
T2306D	40698	400	2.5	70	6	45	1.5	45	1.5	Mod. TO-5	414
T6406B	40699	200	40	70	25	45	1.5	45	1.5	Press-fit	593
T6406D	40700	400	40	70	25	45	1.5	45	1.5	"	593
T6406M	40701	600	40	70	25	45	1.5	45	1.5	"	593
T6416B	40702	200	40	65	25	45	1.5	45	1.5	Stud	593
T6416D	40703	400	40	65	25	45	1.5	45	1.5	Stud	593
T6416M	40704	600	40	65	25	45	1.5	45	1.5	"	593
T6407B	40705	200	30	65	25	45	1.5	45	1.5	Press-fit	459
T6407D	40706	400	30	65	25	45	1.5	45	1.5	"	459
T6417B	40707	200	30	60	25	45	1.5	45	1.5	Stud	459

RATINGS AND CHARACTERISTICS (Cont'd.)

Type No.	Former RCA Type No.	Rep. Peak Off-State Voltage V_{DROM} (V)	RMS On-State Current $I_{T(RMS)}$ at Case Temp. (A)	(°C)	Typ. DC Holding Current at 25°C, I_{HO} (mA)	Max. DC Gate Trigger Current and Voltage at 25°C▲ I^+ I_{GT} (mA)	I^+ V_{GT} (V)	III^+ I_{GT} (mA)	III^+ V_{GT} (V)	Package	For Additional Data, Refer to Bulletin File No.*
T6417D	40708	400	30	60	25	45	1.5	45	1.5	Stud	459
T6407M	40709	600	30	65	25	45	1.5	45	1.5	Press-fit	459
T6417M	40710	600	30	60	25	45	1.5	45	1.5	Stud	459
T4106B	40711	200	15	80	20	45	1.5	45	1.5	Press-fit	458
T4106D	40712	400	15	80	20	45	1.5	45	1.5	"	458
T4116B	40713	200	15	80	20	45	1.5	45	1.5	Stud	458
T4116D	40714	400	15	80	20	45	1.5	45	1.5	"	458
T4706B	40715	200	15	70	15	45	1.5	45	1.5	TO-66	300
T4706D	40716	400	15	70	15	45	1.5	45	1.5	"	300
T4107B	40717	200	10	85	15	45	1.5	45	1.5	Press-fit	457
T4107D	40718	400	10	85	15	45	1.5	45	1.5	Press-fit	457
T4117B	40719	200	10	85	15	45	1.5	45	1.5	Stud	457
T4117D	40720	400	10	85	15	45	1.5	45	1.5	"	457
T2806B	40721	200	8	80	15	45	1.5	45	1.5	Plastic	364
T2806D	40722	400	8	80	15	45	1.5	45	1.5	"	364
T2606DF	40723	450	6	75	–	45	1.5	45	1.5	Mod. TO-5	375
T2616DF	40724	450	6	75	–	45	1.5	45	1.5	Mod. TO-5 on Heat Radiator	375
T2606B	40725	200	6	75	15	45	1.5	45	1.5	Mod. TO-5	352
T2606D	40726	400	6	75	15	45	1.5	45	1.5	"	352
T2706B	40727	200	6	75	15	45	1.5	45	1.5	TO-66	351
T2706D	40728	400	6	75	15	45	1.5	45	1.5	TO-66	351
T2716B	40729	200	6	75	15	45	1.5	45	1.5	TO-66 with Heat Radiator	351
T2716D	40730	400	6	75	15	45	1.5	45	1.5	"	351

▲ A triac driven directly from the output terminal of the CA3058, CA3059, and CA3079 should be characterized for operation in the I^+ or III^+ triggering modes, i.e., with positive gate current (current flows into the gate for both polarities of the applied ac voltage).

* Except for gate characteristics, data in these bulletins also apply to the types listed in this chart.