crydom™

POWER COMPONENTS

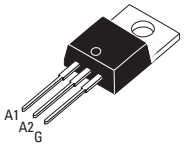
CTA30/CTB35

400/600/800V - TRIAC

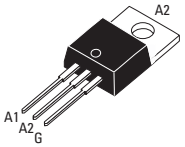
Applications

- Phase Control
- Static Switching
- Light Dimming
- Motor Speed Control
- Kitchen Equipment
- Power Tools
- Solenoid Valve Controls:
  - Dishwashers
  - Washing Machines

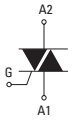
> Suitable for General Purpose AC Switching
> IGT 50mA
> VDRM/VRMM 400, 600, 800V



TO-220AB Isolated
(CTA30)



TO-220AB Non-Isolated
(CTB35)



ISO9001 Certified

Absolute Maximum Ratings

		CONDITIONS	SYMBOL	RATING
RMS On-State Current (full sine wave)	Tc = 95°C Tc = 70°C	TO-220AB TO-220AB Iso	IT(RMS)	35A (CTB) 30A (CTA)
Non Repetitive Surge Peak On-State Current (Full Cycle, Tj Initial = 25°C)		F =50 Hz F =60 Hz	ITSM	335A 350A
I²t Value for fusing		tp = 10 ms	I²t	500A²s
Critical rate of rise of on-state current I_G=2 x I_{GT}, tr<100 ns, T_j = 125°C			di/dt	100A/µsec
Peak Gate Current @ T_j = 125°C		tp = 20 µs	I_{GM}	4A
Average Gate Power Dissipation @ Tj = 125°C			PG(AV)	1W
Storage Temperature Range			Tstg	-40 to +150°C
Operating Junction Temperature Range			Tj	-40 to +125°C
Isolation Voltage (CTA Series only)			V_{ISO}	2500 V_{RMS}

Electrical Characteristics

STANDARD (4 Quadrants)			"B"
I_{GT} MAX @ V_D =12 V, R_L = 30Ω NOTE 1		QI-II-III	50mA
I_{GT} MAX @ V_D =12 V, R_L = 30Ω NOTE 1		QIV	100 mA
V_{GT} MAX @ V_D =12 V, R_L = 30Ω		Q-AII	1.3V
V_{GD} MIN @ V_D =V_{DRM}, R_L = 3.3kΩ	Tj = 125° C	Q-AII	0.2 V
I_H MAX @ I_T = 500 mA NOTE 2			75mA
I_L MAX @ I_G = 1.2 I_{GT}		QI-III-IV	75mA
I_L MAX @ I_G = 1.2 I_{GT}		Q-II	100mA
dv/dt MIN @ V_D = 67%V_{DRM} (gate open) NOTE 2	Tj = 125°C		500V/µsec
(dv/dt)c MIN @ (di/dt)c = 13.3 A/ms NOTE 2	Tj = 125°C		10V/µsec

Static Characteristics

V_T MAX @ I_{TM} =48 A, tp = 380µs NOTE 2	Tj = 25°C	1.55 V
V_{to} MAX @ Threshold Voltage NOTE 2	Tj = 125°C	0.85 V
R_d MAX @ Dynamic Resistance NOTE 2	Tj = 125°C	16 mΩ
I_{DRM} MAX @ V_{DRM} = V_{RRM}	Tj = 25°C	5µA
I_{RRM} MAX @ V_{DRM} = V_{RRM}	Tj = 125°C	3 mA

GENERAL NOTES

1. Minimum IGT is guaranted at 5% of IGT max.
2. For both polarities of A2 referenced to A1
3. All parameters at 25 degrees C unless otherwise specified.

CTA30/CTB35

400/600/800V - TRIAC

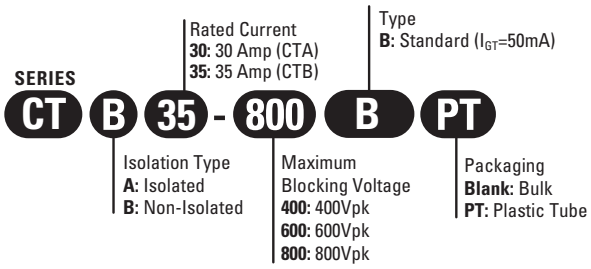
Thermal Resistances

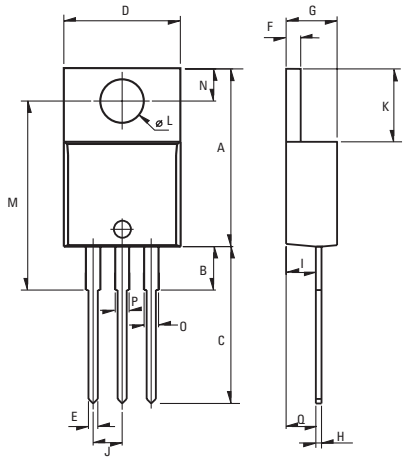
		SYMBOL	RATING
Junction to Case (AC)	TO-220AB	$R_{th(j-c)}$	0.8°C/W
Junction to Case (AC)	TO-220AB Isolated	$R_{th(j-c)}$	1.7°C/W
Junction to Ambient	TO-220AB	$R_{th(j-a)}$	60°C/W
Junction to Ambient	TO-220AB Isolated	$R_{th(j-a)}$	60°C/W

Part Number Selection

Part Number	Voltage [Vpk]	I_{GT}[mA]	Type	Package
CTA30-xxxB	400, 600, 800	50mA	Standard	TO-220AB
CTB35-xxxB	400, 600, 800	50mA	Standard	TO-220AB

Part Number Designation





Weight: 2.3g (0.08 oz)

Dimensions

	Millimeters			Inches		
REF.	Min.	Typ.	Max.	Min.	Typ.	Max.
A	15.24		15.75	0.6		0.62
B		3.23			0.127	
C	12.78		13.79	0.503		0.543
D	9.96		10.36	0.392		0.408
E	0.69		0.94	0.027		0.037
F	1.22		1.32	0.048		0.052
G	4.62		4.83	0.182		0.19
H	0.46		0.61	0.018		0.024
I	2.49		2.84	0.098		0.112
J	2.39		2.69	0.094		0.106
K	6.48		6.88	0.255		0.271
L	3.78		3.89	0.149		0.153
M	15.49	16	16.51	0.61	0.63	0.65
N	2.59		2.9	0.102		0.114
O	0.99		1.55	0.039		0.061
P	0.99		1.55	0.039		0.061
Q		2.67			0.105	

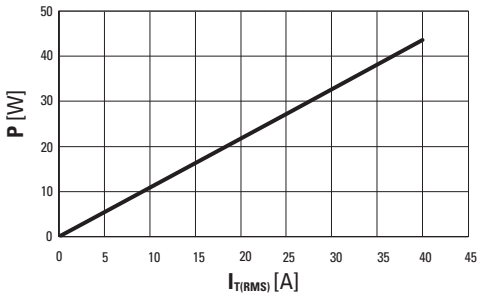


Fig. 1: Power dissipation versus RMS on-state current (full cycle).

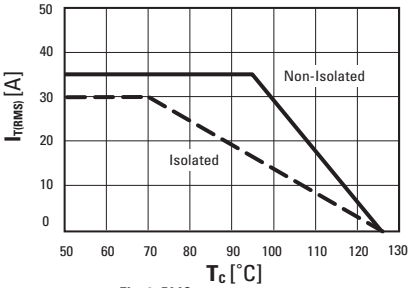


Fig. 2: RMS on-state current versus case temperature (full cycle)

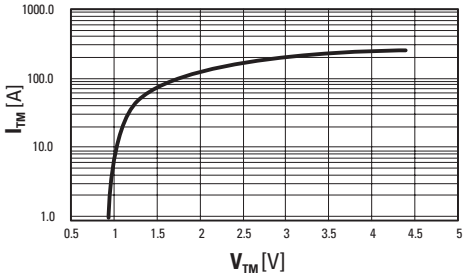


Fig. 3: On-state current versus on-state voltage (instantaneous values)

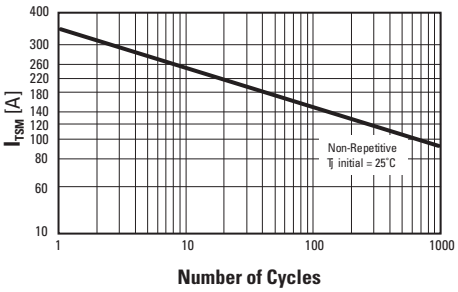


Fig. 4: Non-repetitive surge peak on-state current versus number of cycles.

ISO9001 Certified

Approvals

UL Recognized Component - E72445
(For CTA30)

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