



Applications

- Heat Regulation
 - Ovens
 - Coffee Makers
 - Cookers
- Light Dimming
- Control of Inductive Loads
 - Motors
 - Transformers

- **Superior Commutating Performance at High Temperature**
(di/dt)_c = 25A/ms @ (dv/dt)_c = 50V/μs
- **Ideal for Most Demanding Applications**
- **Alternistor/No Snubber Type**
- **IGT 35 mA Max.**
- **V_{DRM}/V_{RMM} 400, 600, 800V**

Absolute Maximum Ratings

	CONDITIONS	SYMBOL	RATING
RMS On-State Current (full sine wave)	T _c = 130°C T _c = 120°C	TO-220AB TO-220AB Iso I _{T(RMS)}	12A
Non Repetitive Surge Peak On-State Current (Full Cycle, T _j Initial = 25°C)	F = 50 Hz F = 60 Hz	I _{TSM}	140A 145A
I ² t Value for fusing	t _p = 10 ms	I ² t	112A ² s
Critical rate of rise of on-state current I _G = 2 x I _{GT} , t _r < 100 ns, T _j = 150°C		di/dt	100A/μs
Peak Gate Current @ T _j = 150°C	t _p = 20 μs	I _{GM}	4A
Average Gate Power Dissipation @ T _j = 150°C		PG(AV)	1W
Storage Temperature Range		T _{stg}	-40 to +150°C
Operating Junction Temperature Range		T _j	-40 to +150°C
Isolation Voltage (CHTA Series only)		V _{ISO}	2500 V _{RMS}

Electrical Characteristics

I _{GT} MAX @ V _D = 12 V, R _L = 30Ω	NOTE 1	QI-II-III	35mA
V _{GT} MAX @ V _D = 12 V, R _L = 30Ω		QI-II-III	1.3V
V _{GD} MIN @ V _D = V _{DRM} , R _L = 3.3kΩ	T _j = 150°C	QI-II-III	0.15V
I _H MAX @ I _T = 100 mA	NOTE 2		35mA
I _L MAX @ I _G = 1.2 I _{GT}		QI-III	50mA
I _L MAX @ I _G = 1.2 I _{GT}		Q-II	80mA
dv/dt MIN @ V _D = 67%V _{DRM} (gate open)	NOTE 2	T _j = 150°C	300V/μs
(di/dt) _c MIN without snubber	NOTES 2 & 4	T _j = 150°C	12A/ms

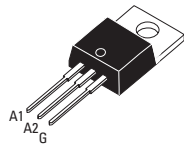
Static Characteristics

V _T MAX @ I _{TM} = 17 A, t _p = 380μs	NOTE 2	T _j = 25°C	1.5V
V _{to} MAX @ Threshold Voltage	NOTE 2	T _j = 150°C	0.8V
R _d MAX @ Dynamic Resistance	NOTE 2	T _j = 150°C	25mΩ
I _{DRM} MAX @ V _{DRM} = V _{RMM}		T _j = 25°C	5μA
I _{RRM} MAX @ V _{DRM} = V _{RMM}		T _j = 150°C	5.5mA

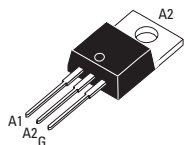
GENERAL NOTES

1. Minimum IGT is guaranteed at 5% of IGT max.
2. For both polarities of A2 referenced to A1
3. All parameters at 25 degrees C unless otherwise specified.
4. Commutating dv/dt = 50V/μs, (exponential to 200Vpk)

Competitive part number cross-reference available at: www.cynergy3.com



TO-220AB Isolated
(CHTA12)



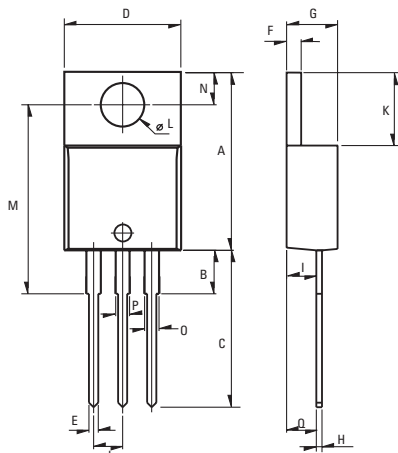
TO-220AB Non-Isolated
(CHTB12)



Thermal Resistances

		SYMBOL	RATING
Junction to Case (AC)	TO-220AB	$R_{th(j-c)}$	1.4°C/W
Junction to Case (AC)	TO-220AB Isolated	$R_{th(j-c)}$	2.3°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 Designation



Weight: 2.3g (0.08 oz)

Dimensions

REF.	Millimeters			Inches		
	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	

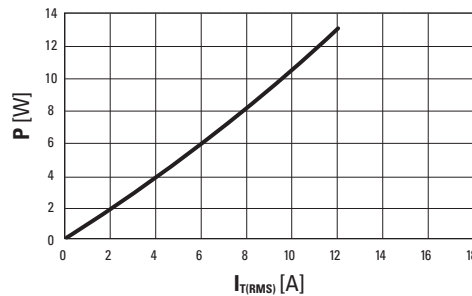


Fig. 1: Power dissipation versus RMS on-state current (full cycle).

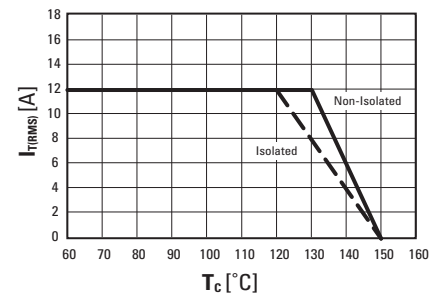


Fig. 2: RMS on-state current versus case temperature (full cycle)

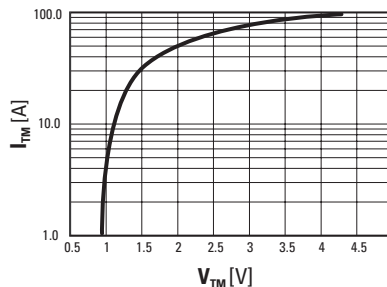


Fig. 3: On-state current versus on-state voltage (instantaneous values)

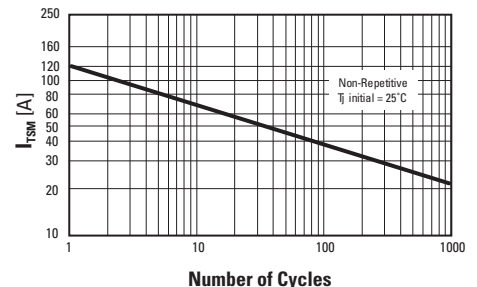


Fig. 4: Non-repetitive surge peak on-state current versus number of cycles.

ISO9001 CERTIFIED

Approvals

UL Recognized Component - E72445 (CHTA Series)

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