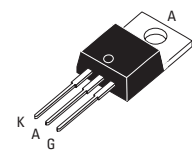


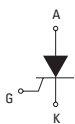
Applications

- Motor Control
- Overvoltage Crowbar Protection
- Capacitive Discharge Ignition
- Voltage Regulation
- Welding Equipment
- Capacitive Filter Soft Start (Inrush Current Control)

- Suitable for General Purpose AC Switching
- IGT 35mA Max.
- V_{DRM}/V_{RMM} 400, 600, 800, 1000V



TO-220AB Non-Isolated



Absolute Maximum Ratings

	CONDITIONS	SYMBOL	RATING
RMS On-State Current (full sine wave) ^{NOTE 1}	$T_c = 90^\circ\text{C}$	TO-220AB $I_T(\text{RMS})$	55A
Average On-State Current	$T_c = 90^\circ\text{C}$	TO-220AB $I_T(\text{AV})$	35A
Non Repetitive Surge Peak On-State Current (Full Cycle, T_j Initial = 25°C)	F = 50 Hz F = 60 Hz	I_{TSM}	675A 700A
I^2t Value for fusing	$t_p = 10$ ms	I^2t	2030A ² s
Critical rate of rise of on-state current $I_G = 2 \times I_{GT}$, $t_r < 100$ ns, $T_j = 125^\circ\text{C}$		di/dt	100A/ μ s
Peak Gate Current @ $T_j = 125^\circ\text{C}$	$t_p = 20$ μ s	I_{GM}	4A
Average Gate Power Dissipation @ $T_j = 125^\circ\text{C}$		$PG(\text{AV})$	1W
Storage Temperature Range		T_{stg}	-40 to $+150^\circ\text{C}$
Operating Junction Temperature Range		T_j	-40 to $+125^\circ\text{C}$
Maximum Peak Reverse Gate Voltage		V_{RGM}	5V

Electrical Characteristics ^{NOTE 1}

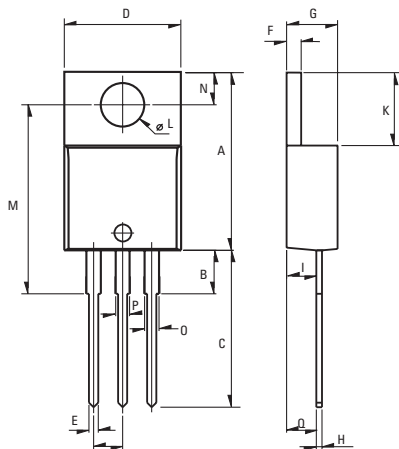
I_{GT} MAX @ $V_D = 12$ V, $R_L = 30\Omega$		35mA
V_{GT} MAX @ $V_D = 12$ V, $R_L = 30\Omega$		1.3V
V_{GD} MIN @ $V_D = V_{\text{DRM}}$, $R_L = 3.3k\Omega$	$T_j = 125^\circ\text{C}$	0.2V
I_H MAX @ $I_T = 500$ mA (gate open)		50mA
I_L MAX @ $I_G = 1.2 I_{GT}$		90mA
dv/dt MIN @ $V_D = 67\%V_{\text{DRM}}$ (gate open)	$T_j = 125^\circ\text{C}$	1000V/ μ s
V_{TM} MAX @ $I_{TM} = 32$ A, $t_p = 380\mu$ s	$T_j = 25^\circ\text{C}$	1.6V
I_{DRM} MAX @ $V_{\text{DRM}} = V_{\text{RRM}}$	$T_j = 25^\circ\text{C}$	5 μ A
I_{RRM} MAX @ $V_{\text{DRM}} = V_{\text{RRM}}$	$T_j = 125^\circ\text{C}$	4mA

GENERAL NOTES

1. Not intended for continuous current use above 50ARMS (Fig 2); for high surge conditions only. Continuous use above 50ARMS may exceed PCB solder melting temperatures.
2. All parameters at 25 degrees C unless otherwise specified.

Thermal Resistances

		SYMBOL	RATING
Junction to Case (AC)	TO-220AB	$R_{th(j-c)}$	1.0°C/W
Junction to Ambient	TO-220AB	$R_{th(j-a)}$	60°C/W



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	

Part Number Designation

SERIES
CYNB 55 - 800 PT

Rated Current
55: 55 Amp

Packaging
Blank: Bulk
PT: Plastic Tube

Maximum Blocking Voltage
400: 400Vpk
600: 600Vpk
800: 800Vpk
1000: 1000Vpk

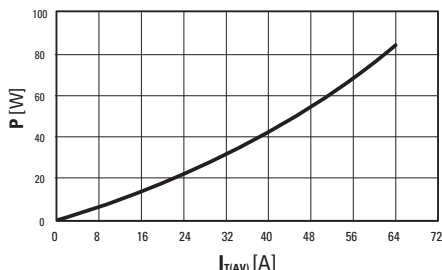


Fig. 1: Power dissipation versus average on-state current.

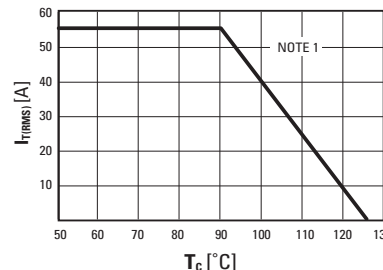


Fig. 2: RMS on-state current versus case temperature (full cycle)

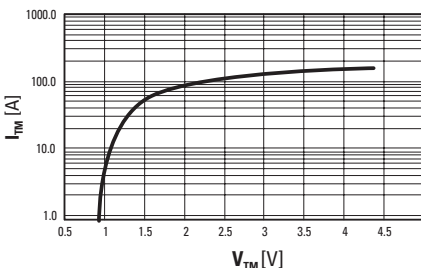


Fig. 3: On-state current versus on-state voltage (instantaneous values)

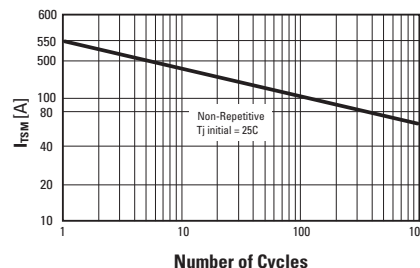


Fig. 4: Non-repetitive surge peak on-state current versus number of cycles.

ISO9001 CERTIFIED

Approvals

UL Recognized Component - E72445 (CYNA Series)

USA

Sales & Tech Support (866) 258-5057
 Email: sales@cynergy3.com
 Cynergy3 Components
 2320 Paseo de las Americas, Suite 104
 San Diego, CA 92154

EUROPE - UK

Telephone +44 (0) 1202 897969
 Fax +44 (0) 1202 891918
 Email: sales@cynergy3.com
 Cynergy3 Components Ltd.
 7 Cobham Road
 Ferndown Industrial Estate
 Wimborne, Dorset BH21 7PE

ASIA - Thailand

Telephone +66 (0)2 665 2517
 Fax +66 (0)2 665 2588
 Cynergy 3 Components, Asia
 18/8 Fico Place 12th Floor
 Soi Sukhumvit 21 (Asoke)
 Klongtoey Nua, Wattana
 Bangkok, Thailand 10110