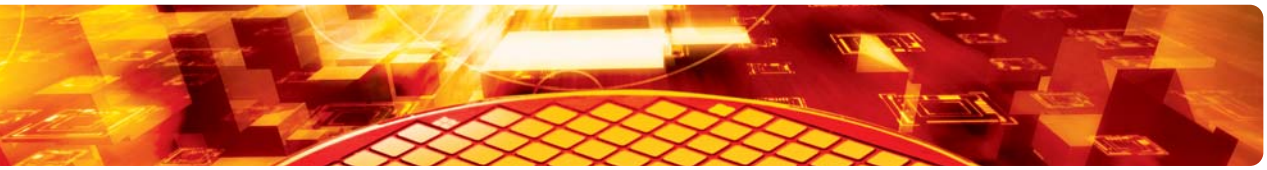
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CYNB 55

55Amp - 400/600/800/1000V - SCR

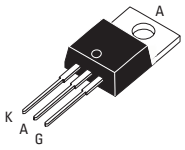


Applications

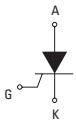
- *Motor Control*
- *Overvoltage Crowbar Protection*
- *Capacitive Discharge Ignition*
- *Voltage Regulation*
- *Welding Equipment*
- *Capacitive Filter Soft Start (Inrush Current Control)*

- ***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	Tc = 90°C	TO-220AB	$I_{T(RMS)}$	55A
Average On-State Current	Tc = 90°C	TO-220AB	$I_{T(AV)}$	35A
Non Repetitive Surge Peak On-State Current (Full Cycle, Tj Initial = 25°C)		F = 50 Hz F = 60 Hz	I_{TSM}	675A 700A
I^2t Value for fusing		tp = 10 ms	I^2t	2030A^2s
Critical rate of rise of on-state current I_G=2 x I_{GT} , tr<100 ns, T_j = 125°C			di/dt	100A/µs
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			T_{stg}	-40 to +150°C
Operating Junction Temperature Range			T_j	-40 to +125°C
Maximum Peak Reverse Gate Voltage			V_{RGM}	5V

Electrical Characteristics NOTE 1

I_{GT} MAX @ V_D =12 V, R_L = 30Ω		35mA
V_{GT} MAX @ V_D =12 V, R_L = 30Ω		1.3V
V_{GD} MIN @ V_D =V_{DRM}, R_L = 3.3kΩ	Tj = 125°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_{DRM} (gate open)	Tj = 125°C	1000V/µs
V_{TM} MAX @ I_{TM} =32 A, tp = 380µs	Tj = 25°C	1.6V
I_{DRM} MAX @ V_{DRM} = V_{RRM}	Tj = 25°C	5µA
I_{RRM} MAX @ V_{DRM} = V_{RRM}	Tj = 125°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.

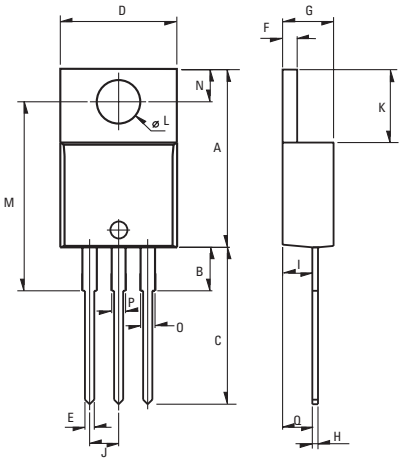
cynergy3 components™

CYNB 55

55Amp - 400/600/800/1000V - SCR

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)

Part Number Designation

SERIES

CYNB **55** - **800** **PT**

- **55**: Rated Current: 55 Amp
- **800**: Maximum Blocking Voltage
  - **400:** 400Vpk
  - **600:** 600Vpk
  - **800:** 800Vpk
  - **1000:** 1000Vpk
- **PT**: Packaging
  - **Blank:** Bulk
  - **PT:** Plastic Tube

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	

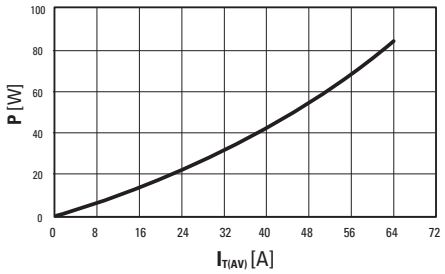


Fig. 1: Power dissipation versus average on-state current.

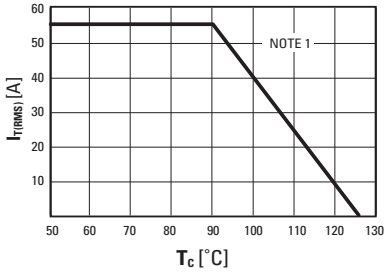


Fig. 2: RMS on-state current versus case temperature (full cycle)

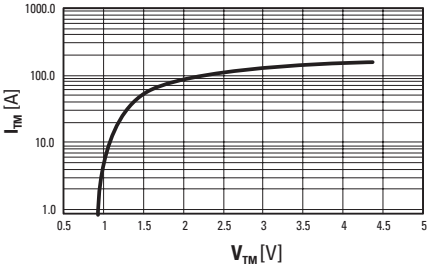


Fig. 3: On-state current versus on-state voltage (instantaneous values)

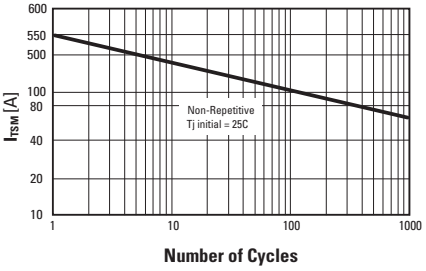


Fig. 4: Non-repetitive surge peak on-state current versus number of cycles.

ISO9001 CERTIFIED

Approvals

UL Recognized Component - E72445 (CYNA Series)

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