



**Applications**

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

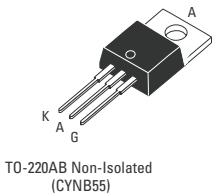
- > Suitable for General Purpose AC Switching
- > IGT 35mA Max.
- > VDRM/VRMM 400, 600, 800, 1000V

**CYNB55**

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

**Absolute Maximum Ratings**

	CONDITIONS	SYMBOL	RATING
RMS On-State Current (full sine wave) <sup>NOTE 1</sup>	T <sub>c</sub> = 70°C	T <sub>O</sub> -220AB	I <sub>T(RMS)</sub> 55A
Average On-State Current	T <sub>c</sub> = 70°C	T <sub>O</sub> -220AB	I <sub>T(AV)</sub> 35A
Non Repetitive Surge Peak On-State Current (Full Cycle, T <sub>j</sub> Initial = 25°C)	F = 50 Hz F = 60 Hz	I <sub>TSM</sub>	675A 700A
I <sup>2</sup> t Value for fusing	t <sub>p</sub> = 10 ms	I <sup>2</sup> t	2030A <sup>2</sup> s
Critical rate of rise of on-state current I <sub>G</sub> = 2 x I <sub>GT</sub> , t <sub>r</sub> < 100 ns, T <sub>j</sub> = 125°C		di/dt	100A/μs
Peak Gate Current @ T <sub>j</sub> = 125°C	t <sub>p</sub> = 20 μs	I <sub>GM</sub>	4A
Average Gate Power Dissipation @ T <sub>j</sub> = 125°C		PG(AV)	1W
Storage Temperature Range		T <sub>stg</sub>	-40 to +150°C
Operating Junction Temperature Range		T <sub>j</sub>	-40 to +125°C
Maximum Peak Reverse Gate Voltage		V <sub>RGM</sub>	5V



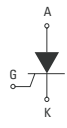
**Electrical Characteristics** <sup>NOTE 2</sup>

I <sub>GT</sub> MAX @ V <sub>D</sub> = 12 V, R <sub>L</sub> = 30Ω		35mA
V <sub>GT</sub> MAX @ V <sub>D</sub> = 12 V, R <sub>L</sub> = 30Ω		1.3V
V <sub>GD</sub> MIN @ V <sub>D</sub> = V <sub>DRM</sub> , R <sub>L</sub> = 3.3kΩ	T <sub>j</sub> = 125°C	0.2V
I <sub>H</sub> MAX @ I <sub>T</sub> = 500 mA (gate open)		50mA
I <sub>L</sub> MAX @ I <sub>G</sub> = 1.2 I <sub>GT</sub>		90mA
dv/dt MIN @ V <sub>D</sub> = 67%V <sub>DRM</sub> (gate open)	T <sub>j</sub> = 125°C	1000V/μs
V <sub>TM</sub> MAX @ I <sub>TM</sub> = 78 A, t <sub>p</sub> = 380μs	T <sub>j</sub> = 25°C	1.6V
I <sub>DRM</sub> MAX @ V <sub>DRM</sub> = V <sub>RRM</sub>	T <sub>j</sub> = 25°C	5μA
I <sub>RRM</sub> MAX @ V <sub>DRM</sub> = V <sub>RRM</sub>	T <sub>j</sub> = 125°C	4mA

**GENERAL NOTES**

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

**ISO9001 Certified**





semi C3 Semiconductor, LLC

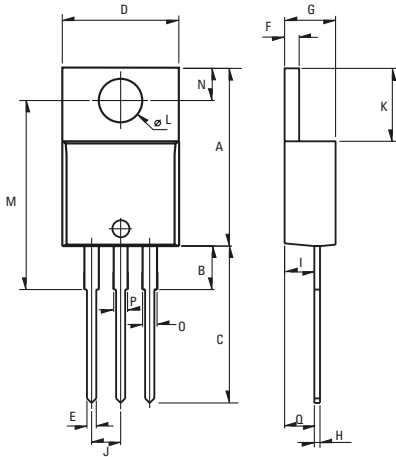
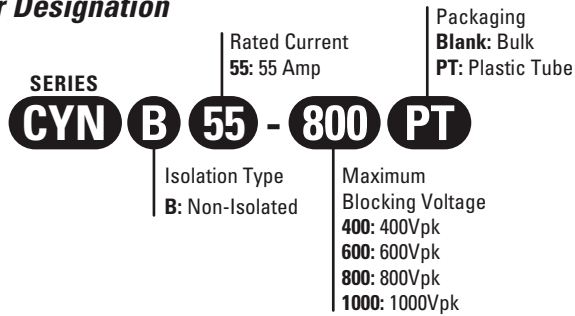
# CYNB55

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

### Thermal Resistances

		SYMBOL	RATING
Junction to Case (AC)	T0-220AB	$R_{th(j-c)}$	1.0°C/W
Junction to Ambient	T0-220AB	$R_{th(j-a)}$	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	

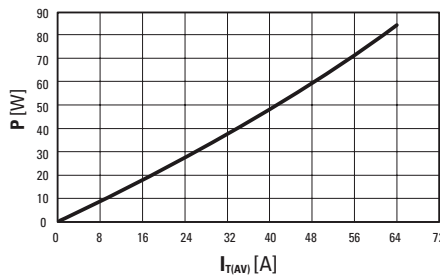


Fig. 1: Power dissipation versus average on-state current.

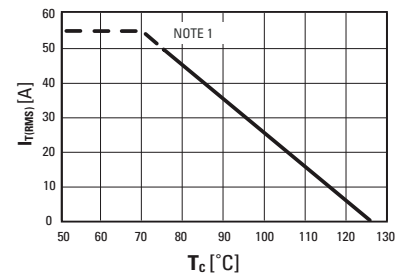


Fig. 2: RMS on-state current versus case temperature (full cycle)

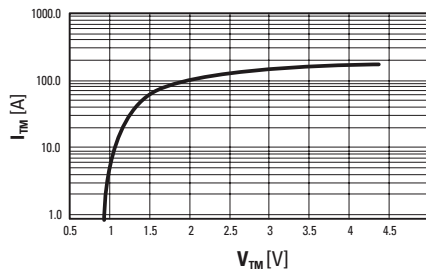


Fig. 3: On-state current versus on-state voltage (instantaneous values)

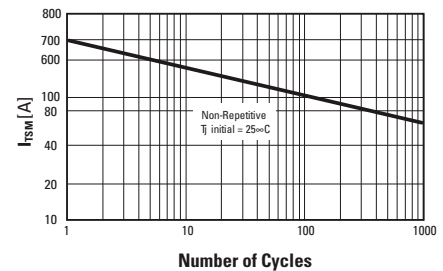


Fig. 4: Non-repetitive surge peak on-state current versus number of cycles.

ISO9001 Certified

© 2007 C3 Semiconductors, Specifications subject to change without notice.

### Approvals

Pending

For recommended applications and more information contact:

USA : Sales Support (888) 882-8689

C3 Semiconductors, LLC. 2320 Paseo de las Americas, Ste. 104, San Diego, CA 92154

Email: sales@c3semi.com WEB SITE: <http://www.C3semi.com>