



semi C3 Semiconductor, LLC

**Applications**

- Input Rectification
- Low Frequency Freewheel
- Battery Isolation

> **Suitable for General Purpose Applications**

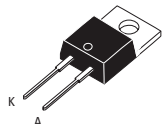
> **Isolated and Non-Isolated Tab**

> **V<sub>R</sub>/V<sub>RRM</sub> 400, 600, 800, 1000V**

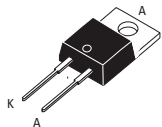
**CRNA/CRNB25**

25Amp - 400/600/800/1000V - **RECTIFIER**

2 Pin Package  
(Standard)

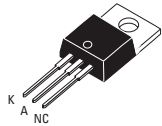


TO-220AB Isolated  
(CRNA25)

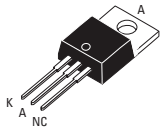


TO-220AB Non-Isolated  
(CRNB25)

3 Pin Package  
(Suffix L3)



TO-220AB Isolated  
(CRNA25...L3)



TO-220AB Non-Isolated  
(CRNB25...L3)



**ISO9001 Certified**

**Absolute Maximum Ratings**

	CONDITIONS	SYMBOL	RATING
RMS On-State Current (full sine wave)	T <sub>c</sub> = 95°C T <sub>c</sub> = 80°C	TO-220AB TO-220AB Iso	I <sub>F(RMS)</sub> 25A
Average On-State Current	T <sub>c</sub> = 95°C T <sub>c</sub> = 80°C	TO-220AB TO-220AB Iso	I <sub>F(AV)</sub> 15.9A
Non Repetitive Surge Peak On-State Current (Full Cycle, T <sub>j</sub> Initial = 25°C)	F = 50 Hz F = 60 Hz	I <sub>FSM</sub>	300A 350A
I <sup>2</sup> t Value for fusing	tp = 10 ms	I <sup>2</sup> t	508A <sup>2</sup> s
Storage Temperature Range		T <sub>stg</sub>	-40 to +150°C
Operating Junction Temperature Range		T <sub>j</sub>	-40 to +125°C
Isolation Voltage (CRNA Series only)		V <sub>ISO</sub>	2500 V <sub>RMS</sub>

**Electrical Characteristics**

V <sub>FM</sub> @ 25A	T <sub>j</sub> = 25°C	1.1V
I <sub>RM</sub> @ V <sub>R</sub> = V <sub>RRM</sub>	T <sub>j</sub> = 25°C	0.1mA
I <sub>RM</sub> @ V <sub>R</sub> = V <sub>RRM</sub>	T <sub>j</sub> = 125°C	1.0mA

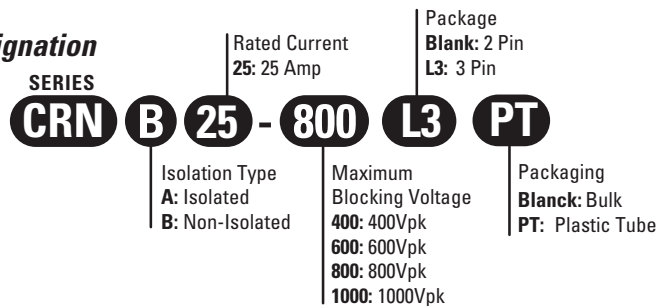
**Thermal Resistances**

	SYMBOL	RATING
Junction to Case (AC)	TO-220AB R <sub>th(j-c)</sub>	1.6°C/W
Junction to Case (AC)	TO-220AB Isolated R <sub>th(j-c)</sub>	2.5°C/W
Junction to Ambient	TO-220AB R <sub>th(j-a)</sub>	60°C/W
Junction to Ambient	TO-220AB Isolated R <sub>th(j-a)</sub>	60°C/W

**GENERAL NOTES**

1. All parameters at 25 degrees C unless otherwise specified.

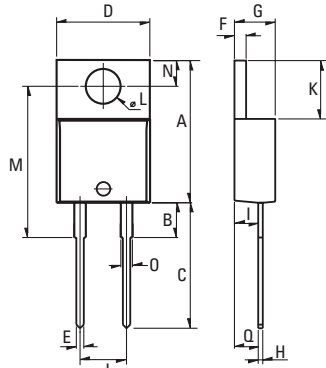
**Part Number Designation**





C3 Semiconductor, LLC

**Dimensions** 2 Pin Package



Weight: 2.3g (0.08 oz)

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
Q		2.67			0.105	

# CRNA/CRNB25

25Amp - 400/600/800/1000V - RECTIFIER

## Characteristics

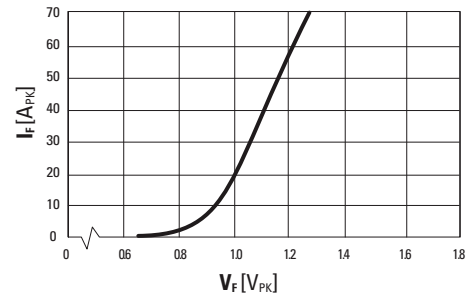


Fig. 1: On-state current versus on-state voltage (instantaneous values)

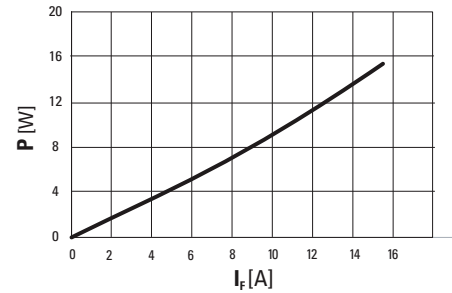


Fig. 3: Power dissipation versus average on-state current

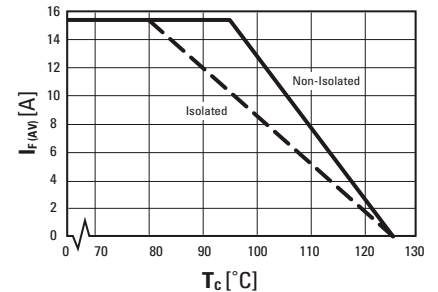


Fig. 2: Average on-state current versus case temperature

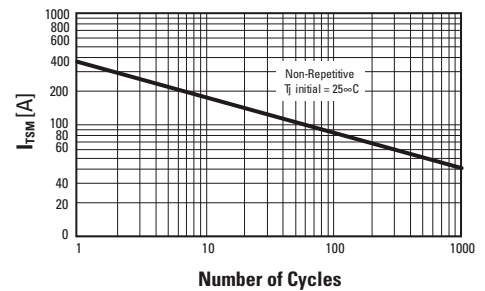
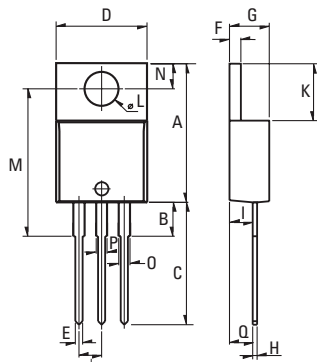


Fig. 4: Non-repetitive surge peak on-state current versus number of cycles.

## Dimensions

 3 Pin Package


Weight: 2.3g (0.08 oz)

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
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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	

ISO9001 Certified

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## Approvals

UL Recognized Component - E72445

(For CRNA series)

For recommended applications and more information contact:

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