



Applications

- Input Rectification
- Low Frequency Freewheel
- Battery Isolation

> **Suitable for General Purpose Applications**

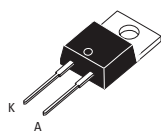
> **Isolated and Non-Isolated Tab**

> **V_R/V_{RRM} 400, 600, 800, 1000V**

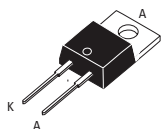
CRNA/CRNB20

20Amp - 400/600/800/1000V - **RECTIFIER**

2 Pin Package (Standard)

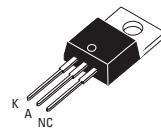


TO-220AB Isolated (CRNA20)

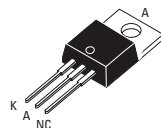


TO-220AB Non-Isolated (CRNB20)

3 Pin Package (Suffix L3)



TO-220AB Isolated (CRNA20...L3)



TO-220AB Non-Isolated (CRNB20...L3)



Absolute Maximum Ratings

	CONDITIONS	SYMBOL	RATING
RMS On-State Current (full sine wave)	T _c = 95°C T _c = 80°C	TO-220AB TO-220AB Iso	I _{F(RMS)} 20A
Average On-State Current	T _c = 95°C T _c = 80°C	TO-220AB TO-220AB Iso	I _{F(AV)} 12.7A
Non Repetitive Surge Peak On-State Current (Full Cycle, T _j Initial = 25°C)	F = 50 Hz F = 60 Hz	I _{FSM}	255A 300A
I ² t Value for fusing	tp = 10 ms	I ² t	374A ² s
Storage Temperature Range		T _{stg}	-40 to +150°C
Operating Junction Temperature Range		T _j	-40 to +125°C
Isolation Voltage (CRNA Series only)		V _{ISO}	2500 V _{RMS}

Electrical Characteristics

V _{FM} @ 20A	T _j = 25°C	1.1V
I _{RM} @ V _R = V _{RRM}	T _j = 25°C	0.1mA
I _{RM} @ V _R = V _{RRM}	T _j = 125°C	1.0mA

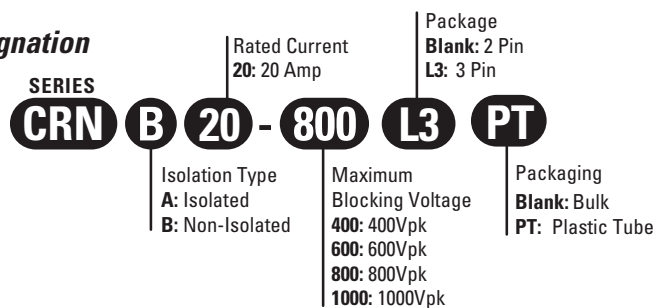
Thermal Resistances

	SYMBOL	RATING
Junction to Case (AC)	TO-220AB R _{th(j-c)}	1.8°C/W
Junction to Case (AC)	TO-220AB Isolated R _{th(j-c)}	2.7°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

GENERAL NOTES

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

Part Number Designation



ISO9001 Certified



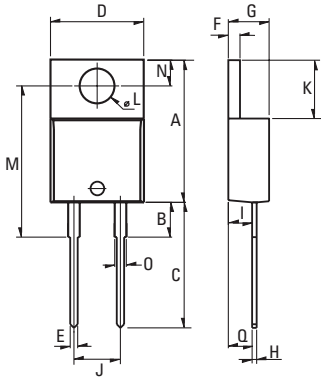
C3 Semiconductor, LLC

Dimensions 2 Pin Package

CRNA/CRNB20

20Amp - 400/600/800/1000V - RECTIFIER

Characteristics



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	

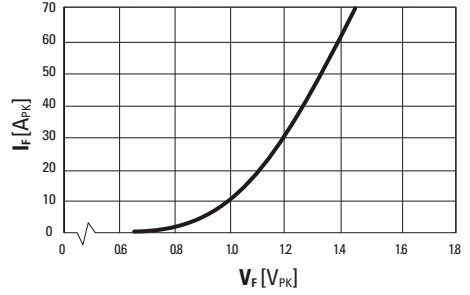


Fig. 1: On-state current versus on-state voltage (instantaneous values)

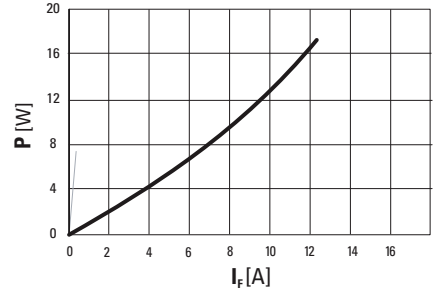


Fig. 3: Power dissipation versus average on-state current

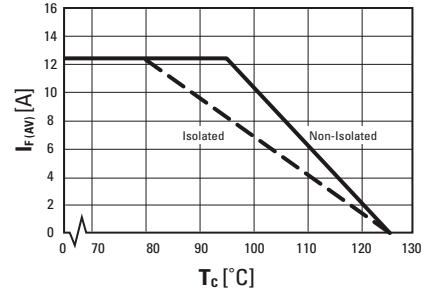


Fig. 2: Average on-state current versus case temperature

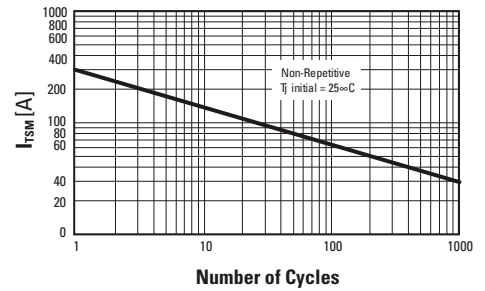
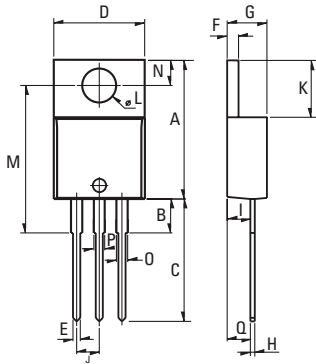


Fig. 4: Non-repetitive surge peak on-state current versus number of cycles.

Dimensions 3 Pin Package



Weight: 2.3g (0.08 oz)

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	Min.	Typ.	Max.	Min.	Typ.	Max.
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B		3.23			0.127	
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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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