

375V DERATING CHART

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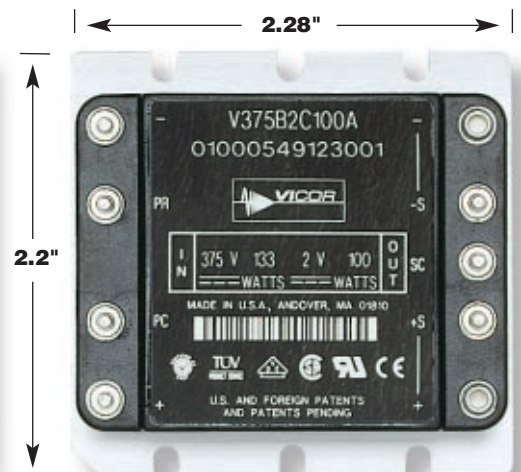
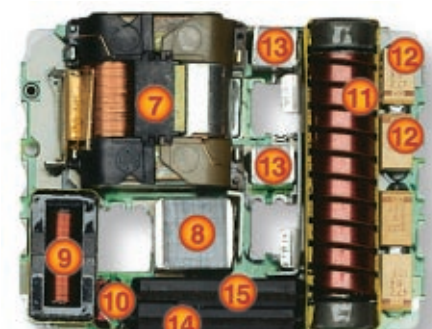
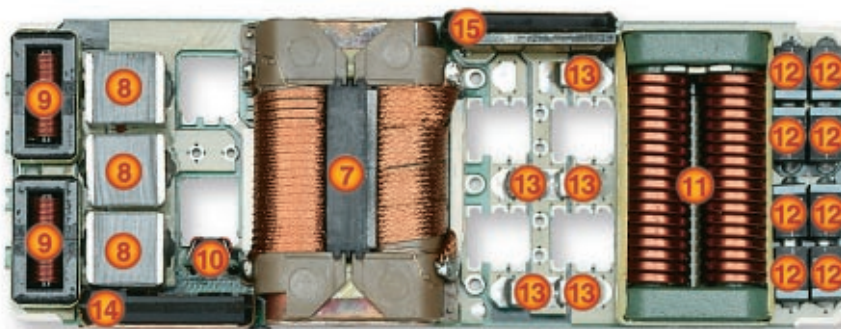
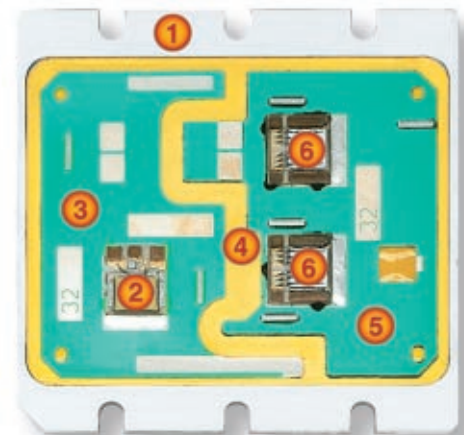
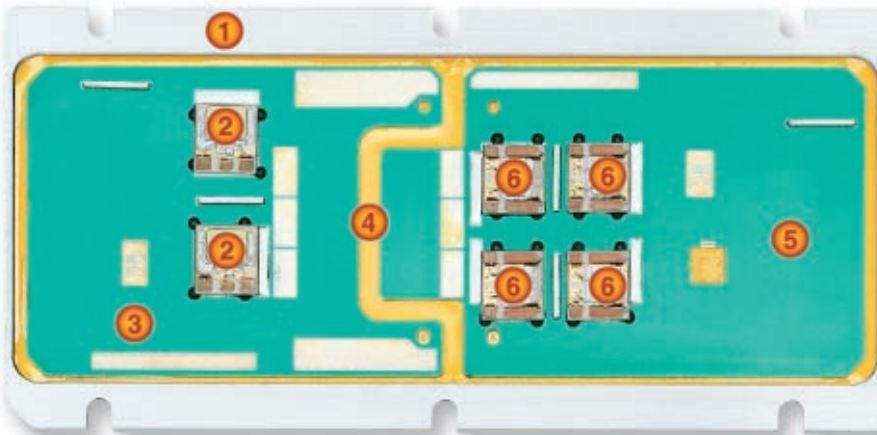
2nd Generation

Module Construction & Comp

The photo below illustrates a typical 2nd Generation Maxi (V375A24C600A), Mini (V375B2C100A) and Micro (V375C12C150A). The captions provide i
Temperatures and voltages shown are for 375V input; full load of 600W, 50A, 150W, respectively, and 100°C baseplate. Maximum device ratings are shown in par

MAXI

MINI

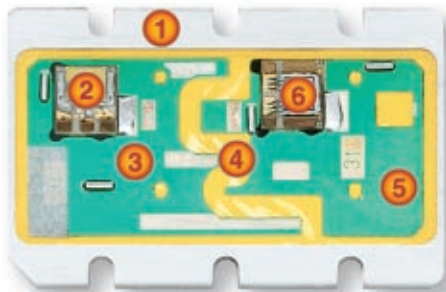


Component Derating

375V Input Modules

information as to materials and operating parameters.
parenthesis.

MICRO



2.28"



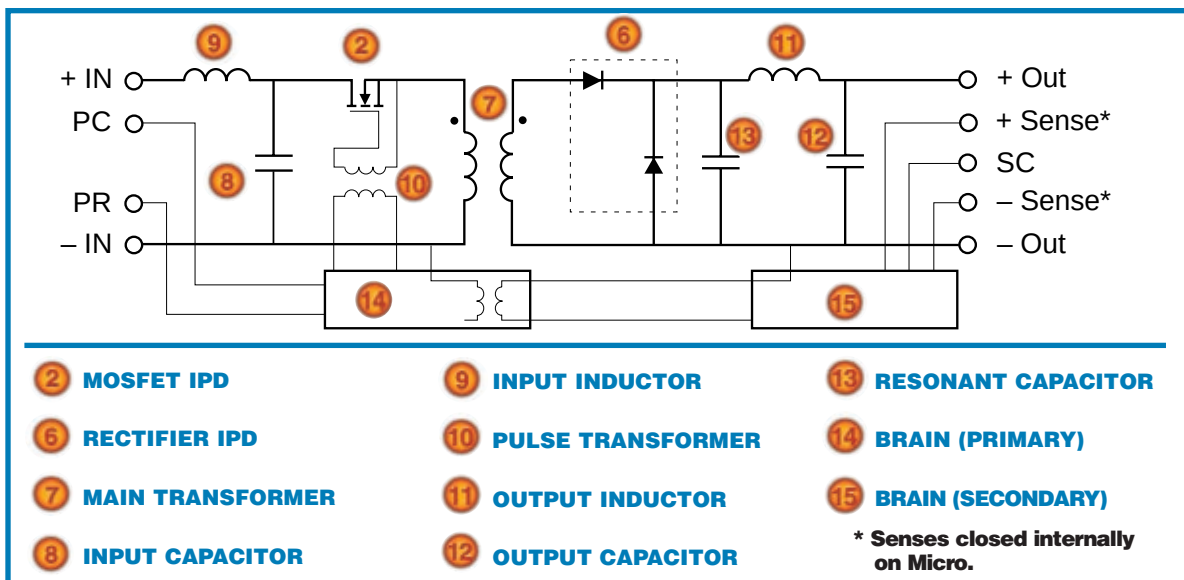
1.45"

ITEM	MAXI V375A24C600A	MINI V375B2C100A	MICRO V375C12C150A
1 BASEPLATE Provides mounting, mechanical rigidity and heat-spreading.	Aluminum 6063T-5	Aluminum 6063T-5	Aluminum 6063T-5
2 MOSFET IPD(s) This is the main switch and is common drain for low conducted and radiated noise.	Quantity - 2 123°C (150°C) Cj j-bp = 2.1°C/W 532V (600V)	Quantity - 1 107°C (175°C) Cj j-bp = 2.1°C/W 460V (600V)	Quantity - 1 110°C (150°C) Cj j-bp = 2.1°C/W 524V (600V)
3 PRIMARY SHIELD Functions as heat-spreader to lower thermal impedance from MOSFET to baseplate and as EMI shield to reduce conducted and radiated noise.	Clad Aluminum	Clad Aluminum	Clad Aluminum
4 INSULATOR Provides electrical isolation between primary and secondary circuits and baseplate.	Polyimide	Polyimide	Polyimide
5 SECONDARY SHIELD Functions as heat-spreader to lower thermal impedance from rectifier to baseplate and as EMI shield to reduce conducted and radiated noise.	Clad Aluminum	Clad Aluminum	Clad Aluminum
6 RECTIFIER IPD(s) A dual diode output rectifier.	Quantity - 4 118°C (150°C) Cj j-bp = 2.61°C/W 148V (200V)	Quantity - 2 128°C (150°C) Cj j-bp = 2.22°C/W 20V (31V)	Quantity - 1 115°C (150°C) Cj j-bp = 2.55°C/W 66V (100V)
7 MAIN TRANSFORMER Provides primary to secondary isolation.	120°C (240°C) - core 143°C (180°C) - windings	104°C (240°C) - core 118°C (180°C) - windings	128°C (240°C) - core 134°C (180°C) - windings
8 INPUT CAPACITOR(s) The "C" part of the input "LC" filter.	Quantity - 3 Film 375V (450V)	Quantity - 1 Film 375V (450V)	Quantity - 1 Film 375V (450V)
9 INPUT INDUCTOR The "L" part of the input "LC" filter.	Quantity - 2 107°C (125°C) - core 112°C (180°C) - windings	Quantity - 1 102°C (125°C) - core 104°C (180°C) - windings	Quantity - 1 104°C (125°C) - core 108°C (180°C) - windings
10 PULSE TRANSFORMER Drives the common drain MOSFET.	112°C (170°C)	104°C (170°C)	107°C (170°C)
11 OUTPUT INDUCTOR The "L" part of the output "LC" filter.	115°C (125°C) - core 120°C (180°C) - windings	114°C (125°C) - core 122°C (180°C) - windings	111°C (125°C) - core 118°C (180°C) - windings
12 OUTPUT CAPACITOR(s) The "C" part of the output "LC" filter.	Quantity - 8 Tantalum 24V (50V)	Quantity - 4 Tantalum 2V (6V)	Quantity - 2 Tantalum 12V (20V)
13 RESONANT CAPACITOR(s) The "C" part of the quasi-resonant tank for this zero-current-switching converter.	Quantity - 5 Film 148V (200V)	Quantity - 2 Film 20V (30V)	Quantity - 1 Film 66V (100V)
14 BRAIN (PRIMARY) Contains primary ICD's (integrated control devices).	112°C (135°C)	109°C (135°C)	107°C (135°C)
15 BRAIN (SECONDARY) Contains secondary ICD's (integrated control devices).	109°C (135°C)	112°C (135°C)	120°C (135°C)
COMPONENT COUNT	29	16	12
MTBF	2.5 Million Hours	2.3 Million Hours	3.3 Million Hours



2nd Generation

DC-DC Block Diagram



MAXI

Output Voltage	Output Power	Part Number
2V	160W	V375A2C160A
3.3V	264W	V375A3V3C264A
5V	400W	V375A5C400A
12V	600W	V375A12C600A
15V	600W	V375A15C600A
24V	600W	V375A24C600A
28V	600W	V375A28C600A
48V	600W	V375A48C600A

MINI

Output Voltage	Output Power	Part Number
2V	100W	V375B2C100A
3.3V	150W	V375B3V3C150A
5V	200W	V375B5C200A
12V	300W	V375B12C300A
15V	300W	V375B15C300A
24V	300W	V375B24C300A
28V	300W	V375B28C300A
48V	300W	V375B48C300A

MICRO

Output Voltage	Output Power	Part Number
2V	50W	V375C2C50A
3.3V	75W	V375C3V3C75A
5V	100W	V375C5C100A
12V	150W	V375C12C150A
15V	150W	V375C15C150A
24V	150W	V375C24C150A
28V	150W	V375C28C150A
48V	150W	V375C48C150A

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