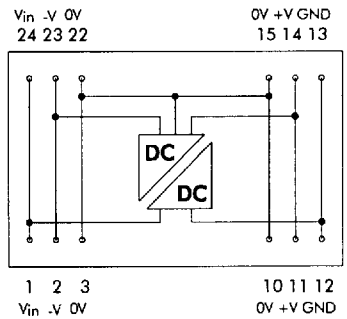
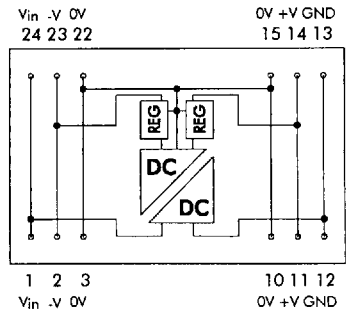
- ❒ Industry-standard footprint
- ❒ 500V isolation
- ❒ 0.5% regulation
- ❒ Low noise
- ❒ 24pin 0.6" DIP
- ❒ 5V, 12V, 24V and 48V Input
- ❒ Power density 0.45W/cm^3

Schematics

Dual Unregulated Output (top view)



Dual Regulated Output (top view)



description

The NMYD Series is a range of industry-standard, high efficiency, DC-DC converters. Variants provide unregulated and regulated devices in dual output configurations. Unregulated devices offer efficiencies up to 80%. Regulated devices provide line and load regulation of 0.5% over the output range with continuous short circuit protection by current fold back. The delivered power is 3W and input to output isolation is 500VDC. Devices are encapsulated using flame retardant resin. Input voltages of 5V, 12V, 24V and 48V with output voltages of 5V, 12V and 15V are available.

NOTE : The case is not connected to any of the active device pins.

absolute maximum ratings over operating free air* temperature range.

Input voltage V_{in} NMYD05 types 7V
Input voltage V_{in} NMYD12 types 15V
Input voltage V_{in} NMYD24 types 28V
Input voltage V_{in} NMYD48 types 54V
Output power 3W
Isolation voltage (flash tested) 500VDC
Operating free air temperature range . . . . . 0°C to 70°C
Storage temperature range . . . . . –40°C to 125°C

electrical specifications over operating free air* temperature range

Input voltage range (Regulated and Unregulated) . . . . ±10% of nominal
Load voltage regulation (Unregulated) 10.0%
Load voltage regulation (Regulated) 1.0%
Line voltage regulation (Unregulated) 5.0%
Line voltage regulation (Regulated) 1.0%
Output voltage accuracy 4.0%

Output ripple and noise (20MHz Band limited) . . . . . 75mV p-p max.
Insulation resistance at 500VDC . . . . . 1000MΩ min.
Efficiency at full load (Unregulated) . . . . . 80% typical 70% min.
Efficiency at full load (Regulated) . . . . . 60% min.

Temperature drift . . . . . 0.05% per °C max.
Temperature rise above ambient at full load (Unregulated) . . . . . 10°C
Temperature rise above ambient at full load (Regulated) . . . . . 25°C
Weight (typical) . . . . . 16 grams
Switching frequency at full load (typical) 40kHz
No-load power consumption (typical) 600mW

* Free air – requires a minimum of 10mm of air space around the component.

pin connections

Pin Number	Description
1 & 24	V_{in} (Positive Input)
2 & 23	-V (Negative Output)
3 & 22	0V (Output Ground)
10 & 15	0V (Output Ground)
11 & 14	+V (Positive Output)
12 & 13	GND (Input Ground)

selection guide

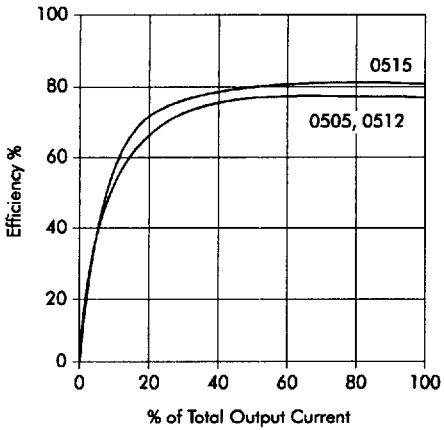
5V, 12V, 24V and 48V input types

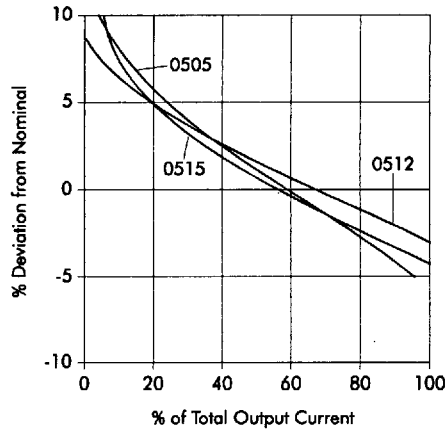
Part Number	Output Voltage (V)	Output Current (mA)	Package Style
NMYDXX05(R)	±5	300	31
NMYDXX12(R)	±12	125	
NMYDXX15(R)	±15	100	

(R) = parts with a regulated output have 'R' suffixed to the part number.

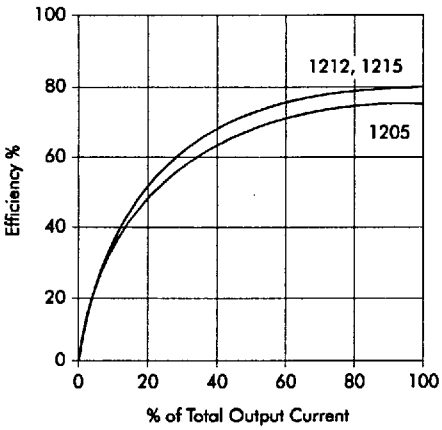
typical characteristics

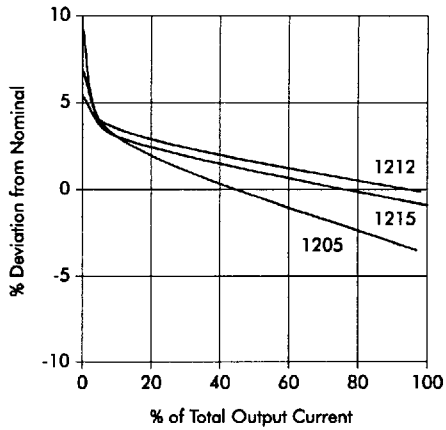
unregulated NMYD05 Series





unregulated NMYD12 Series

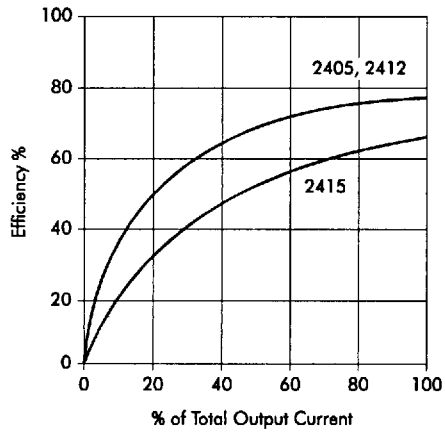


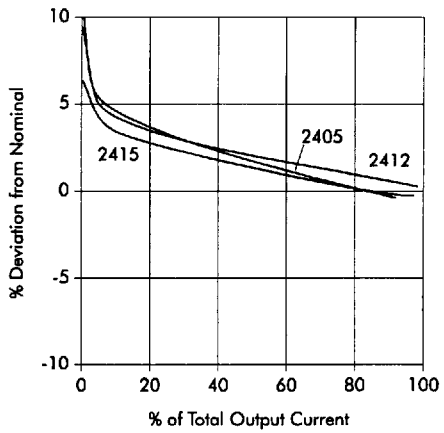


Note : all typical data taken at T_a=20°C.

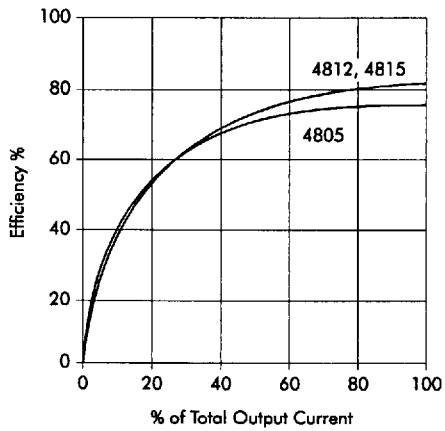
typical characteristics

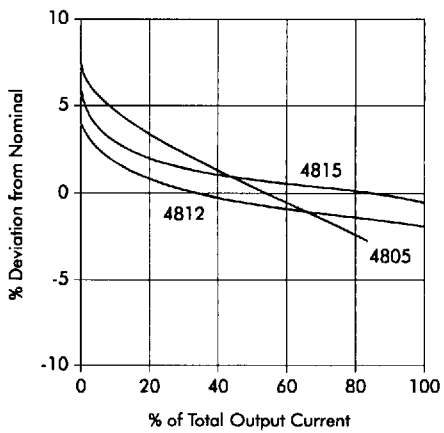
unregulated NMYD24 Series





unregulated NMYD48 Series





Note : all typical data taken at T_a=20°C.

typical isolation capacitance (pF)

Part Number	Output Voltage (V)		
	05	12	15
NMYD05XX	55	67	61
NMYD05XXR	30	34	35
NMYD12XX	57	93	91
NMYD12XXR	30	31	32
NMYD24XX	50	90	99
NMYD24XXR	40	39	131
NMYD48XX	45	80	90
NMYD48XXR	40	40	33

Note : all typical data taken at T_a=20°C.