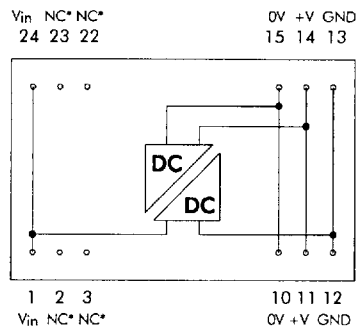
- Industry-standard footprint
- 500V isolation
- 0.5% regulation
- Low noise
- 24pin 0.6" DIP
- 5V, 12V, 24V and 48V Input
- Power density 0.45W/cm^3

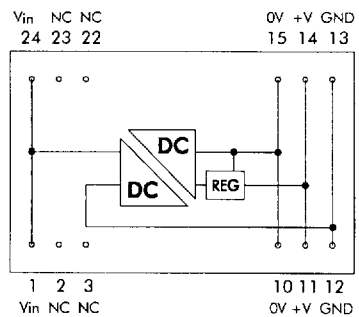
Schematics

Single Unregulated Output types and Wide input types (top view)



* These pins are not fitted on the Wide Input devices.

Single Regulated Output types (top view)



description

The NMYS Series is a range of industry-standard, high efficiency, DC-DC converters. Variants provide unregulated, regulated and wide-input range devices in a single output configuration. 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. Wide range devices operate over 2:1 input voltage range providing stable output voltages. 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 pins.

absolute maximum ratings over operating free air* temperature range.

Input voltage V_{in} NMYS05 types	7V
Input voltage V_{in} NMYS12 types	15V
Input voltage V_{in} NMYS24 types	28V
Input voltage V_{in} NMYS48 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
Input voltage range (Wide Range)	See table
Load voltage regulation (Unregulated)	10.0%
Load voltage regulation (Regulated)	0.5%
Load voltage regulation (Wide Range)	2.5%
Line voltage regulation (Unregulated)	5.0%
Line voltage regulation (Regulated)	0.5%
Line voltage regulation (Wide Range)	2.5%
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 & Wide Range)	60% min.
Temperature drift	0.02% 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 - NMYS regulated/unregulated types

Pin Number	Description
1 & 24	V_{in} (Positive Input)
2 & 23	Not Connected
3 & 22	Not Connected
10 & 15	0V (Output Ground)
11 & 14	+V (Positive Output)
12 & 13	GND (Input Ground)

pin connections - NMYS wide input types

Pin Number	Description
1 & 24	Vcc (Positive Input)
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
NMYSXX05(R)	5	600	31
NMYSXX12(R)	12	250	
NMYSXX15(R)	15	200	

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

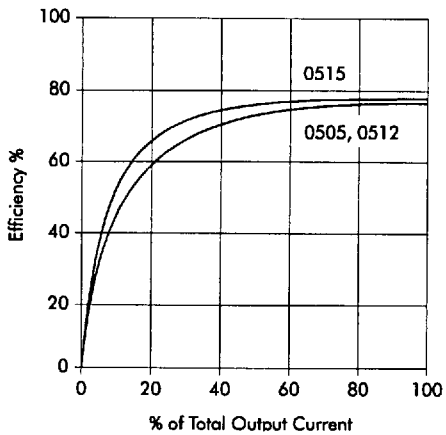
selection guide

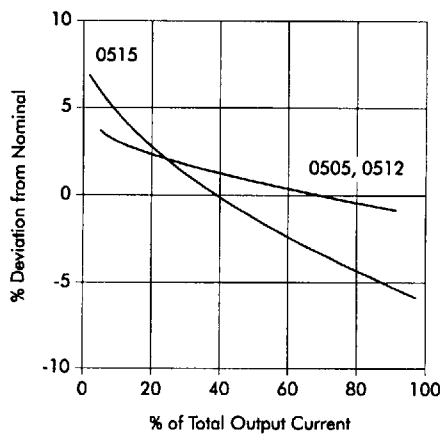
5V, 12V, 24V and 48V wide range input types

Part Number	Input Voltage (V)	Output Voltage (V)	Output Current (mA)	Package Style
NMYS0505W	4.5 – 6	5	600	32
NMYS0512W	4.5 – 6	12	250	
NMYS0515W	4.5 – 6	15	200	
NMYS1205W	9 – 18	5	600	
NMYS1212W	9 – 18	12	250	
NMYS1215W	9 – 18	15	200	
NMYS2405W	18 – 36	5	600	
NMYS2412W	18 – 36	12	250	
NMYS2415W	18 – 36	15	200	
NMYS4805W	36 – 72	5	600	
NMYS4812W	36 – 72	12	250	
NMYS4815W	36 – 72	15	200	

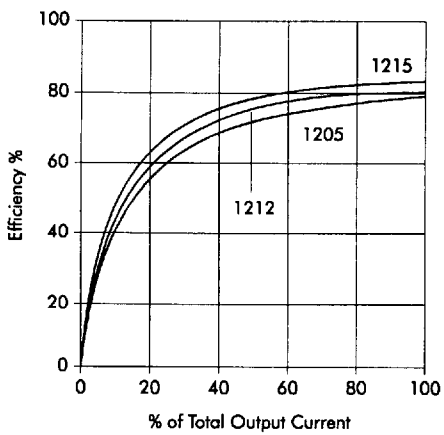
typical characteristics

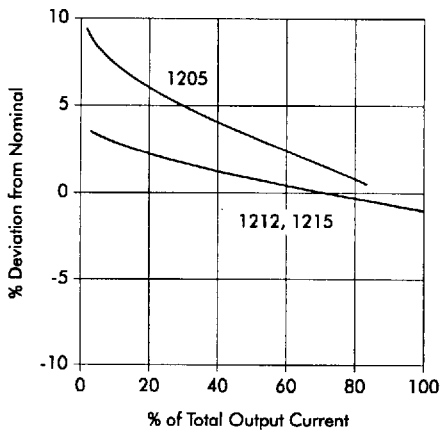
unregulated NMYS05 Series





unregulated NMYS12 Series

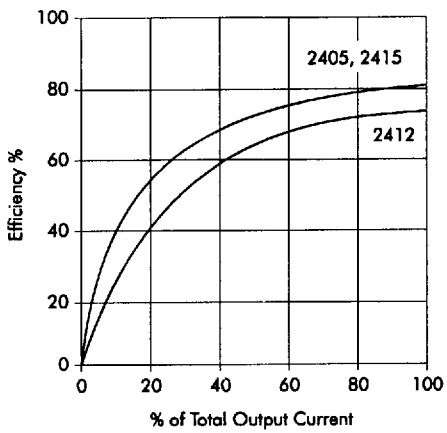


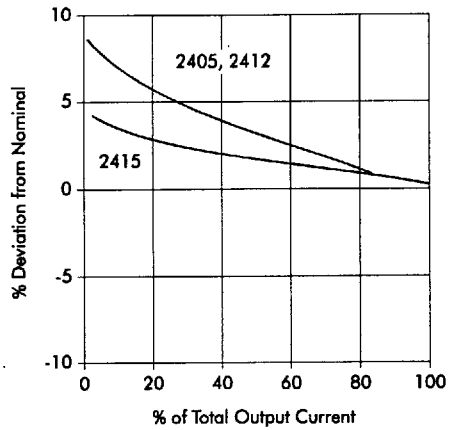


Note : all typical data taken at T_a=20°C.

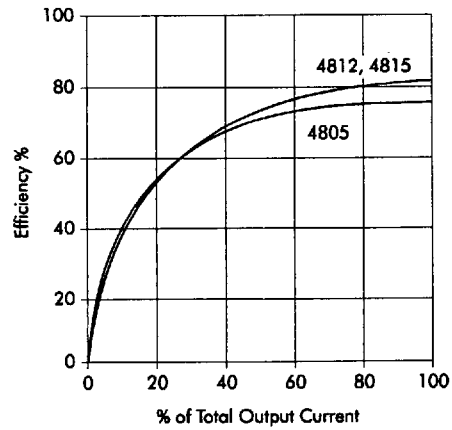
typical characteristics

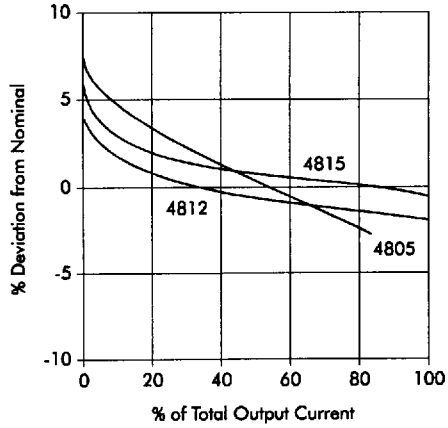
unregulated NMYS24 Series





unregulated NMYS48 Series

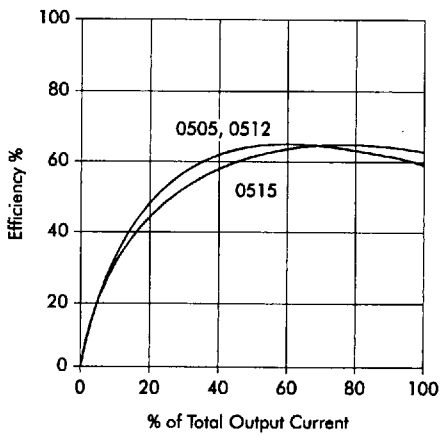




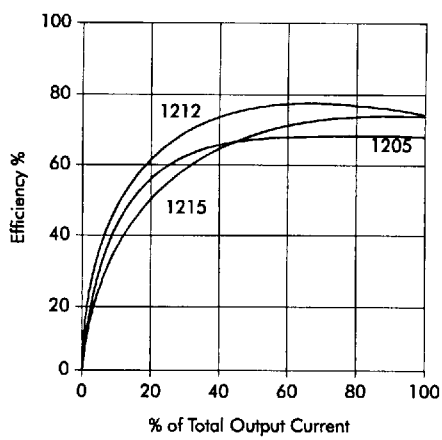
Note : all typical data taken at T_a=20°C.

typical characteristics

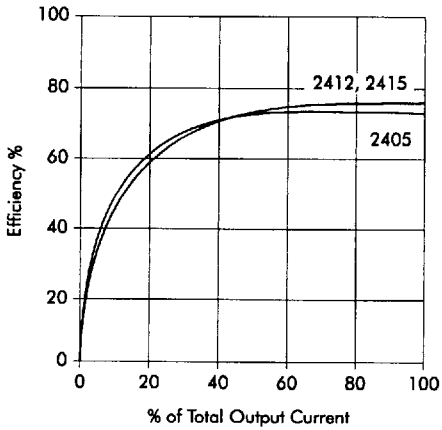
wide-input NMYS05 Series



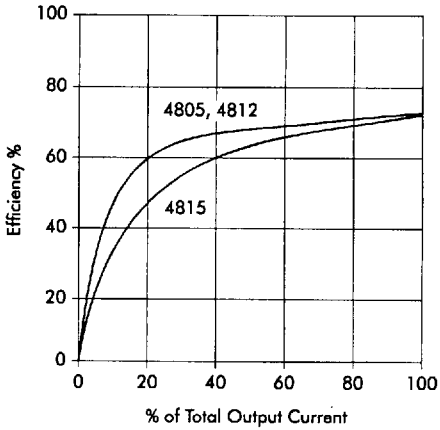
wide-input NMYS12 series



wide-input NMYS24 Series



wide-input NMYS48 series



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

typical isolation capacitance (pF)

Part Number	Output Voltage (V)		
	05	12	15
NMYS05XX	55	67	61
NMYS05XXR	30	34	35
NMYS05XXW	54	30	29
NMYS12XX	57	93	91
NMYS12XXR	30	31	32
NMYS12XXW	24	25	29
NMYS24XX	50	90	99
NMYS24XXR	40	39	131
NMYS24XXW	24	27	25
NMYS48XX	45	80	90
NMYS48XXR	40	40	33
NMYS48XXW	26	31	27

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