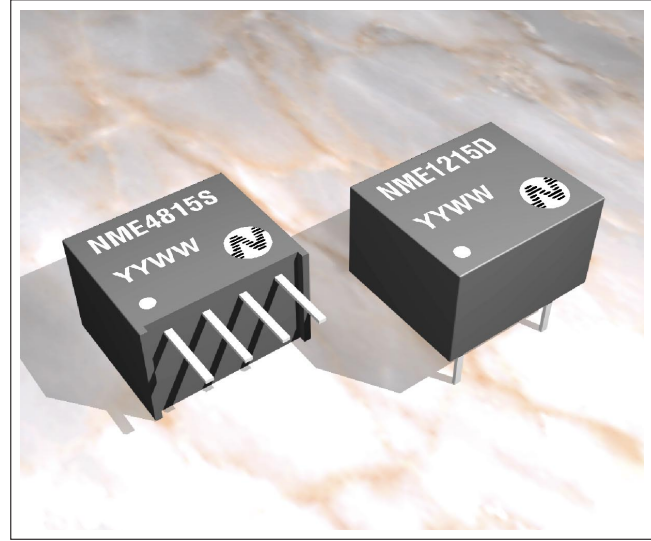


features

- Single Isolated Output
- 1kVDC Isolation
- Pin Compatible with LME & NML
- SIP & DIP Package Styles
- Efficiency to 75%
- Power Density 1.45W/cm³
- 3.3V, 5V, 12V, 24V & 48V Input
- 3.3V, 5V, 9V, 12V and 15V Output
- Footprint from 0.69 cm²
- UL 94V-0 Package Material
- No Heatsink Required
- Internal SMD Construction
- Toroidal Magnetics
- Fully Encapsulated
- No External Components Required
- MTTF up to 3.2 Million Hours
- PCB Mounting
- Custom Solutions Available

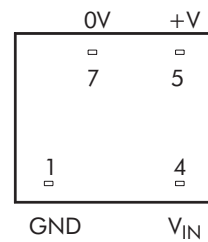
description

The NME Series of DC-DC Converters is particularly suited to isolating and/or converting DC power rails. The galvanic isolation allows the device to be configured to provide an isolated negative rail in systems where only positive rails exist.

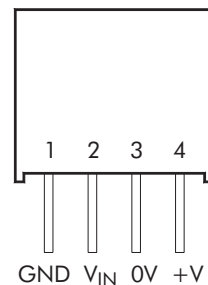


pin connections

8 Pin DIP (top view)



4 Pin SIP



NME SERIES

Isolated 1W Single Output

absolute maximum ratings over operating free air* temperature range

Input voltage V_{IN} NME03 types	5V
Input voltage V_{IN} NME05 types	7V
Input voltage V_{IN} NME12 types	15V
Input voltage V_{IN} NME24 types	28V
Input voltage V_{IN} NME48 types	54V
Output power total NME03 types	500m
Output power total NME05 12 24 and 48 types	1
Short-circuit duration	1s
Isolation voltage (flash tested for 1 second)	1000VDC
Operating free air temperature range	0 C to 70 C ¹
Storage temperature range	-55 C to 150 C
Lead temperature 1.5mm from case for 10 seconds	300 C

electrical specifications

measured at T_A 25 C, at nominal input voltage

Input voltage range NME03 types	3.3V±10
Input voltage range NME05 types	5V±10
Input voltage range NME12 types	12V±10
Input voltage range NME24 types	24V±10
Input voltage range NME48 types	48V±10
Load voltage regulation (10 to 100 full load)	
3.3V and 5V output types	15 max.
V 12V and 15V output types	10 max.
Line voltage regulation (10 to 100 full load)	1.2 /1 of V_{IN}
Output voltage accuracy	See tolerance envelope graph
Input reflected ripple(20M and limited)	
NME03 types	100mV p-p max.
NME05 12 24 and 48 types	0mV p-p max.
Output ripple (20M and limited)	150mV p-p max.
Insulation resistance at 500VDC	1000 MΩ min.
Efficiency at full load 3.3V and 5V output types	70 typical 5 min.
Efficiency at full load V 12V and 15V output types	75 typical 70 min.

*Free air – requires a minimum of 10mm air space around the component. ¹ See derating curve.

electrical specifications

measured at $T_A = 25\text{ C}$, at nominal input voltage

Temperature drift (V_{OUT} vs T)	0.03	per C max.
Temperature rise above ambient at full load	20	C max.
eight SIP types (typical)	1.4	grams
eight DIP types (typical)	1.5	grams
Switching frequency at full load (typical)	100	
No load power consumption (typical) NME03 types	75	m
No load power consumption (typical) NME05 12 24 and 48 types	100	m

selection guide

3.3V input types

Part Number	Output Voltage V	Output Current mA	Package Style
NME0305D	5	100	1
NME0305D	5	5	
NME0312D	12	42	
NME0315D	15	34	
NME0305S	5	100	3
NME0305S	5	5	
NME0312S	12	42	
NME0315S	15	34	

NME0503

Part Number	Output Voltage V	Output Current mA	Package Style
NME0503D	3.3	154	1
NME0503S			3

NME SERIES

Isolated 1W Single Output

selection guide

5V, 12V and 24V input types

Part Number	Output Voltage V	Output Current mA	Package Style
NME 05D	5	200	1
NME 0 D		110	
NME 12D	12	84	
NME 15D	15	7	
NME 05S	5	200	3
NME 0 S		110	
NME 12S	12	84	
NME 15S	15	7	

48V input types

Part Number	Output Voltage V	Output Current mA	Package Style
NME4805D	5	200	2
NME480 D		110	
NME4812D	12	84	
NME4815D	15	7	
NME4805S	5	200	4
NME480 S		110	
NME4812S	12	84	
NME4815S	15	7	

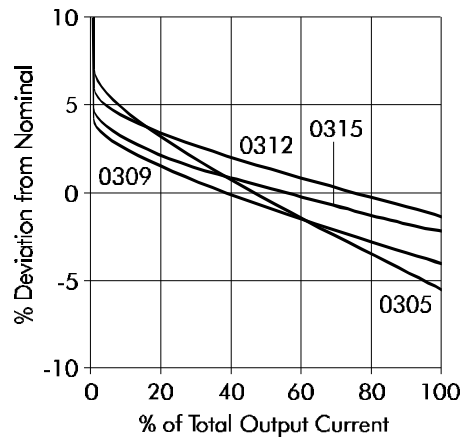
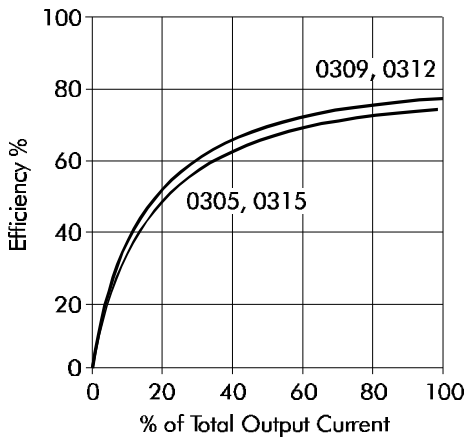
typical isolation capacitance (pF)

Part Number	Output Voltage V				
	3.3	05	0	12	15
NME03	-	21	23	25	25
NME05	21	24	32	2	32
NME12	-	33	51	5	1
NME24	-	40	5	78	7
NME48	-	32	50	7	75

Note: All data taken at T = 25 C.

typical characteristics

NME03 series



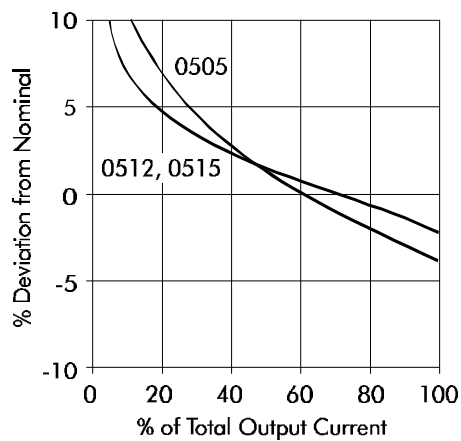
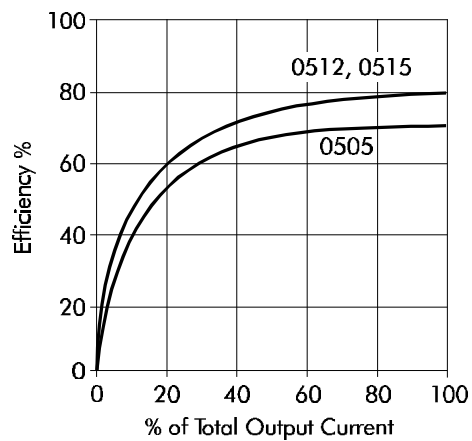
Note: All data taken at T = 25 C.

NME SERIES

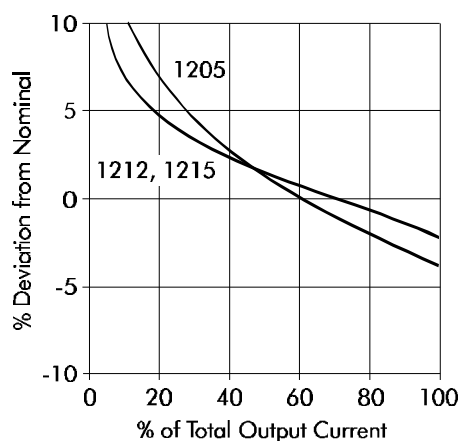
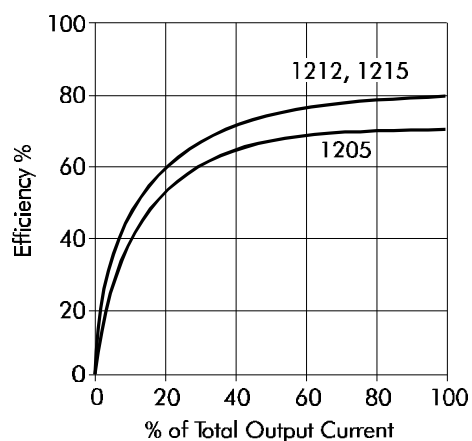
Isolated 1W Single Output

typical characteristics

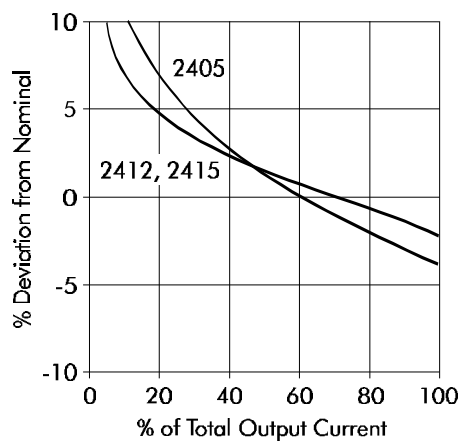
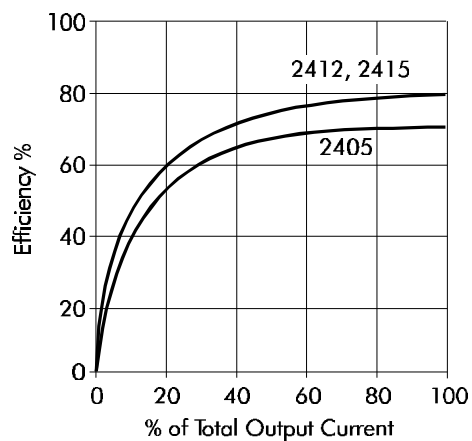
NME05 series



NME12 series



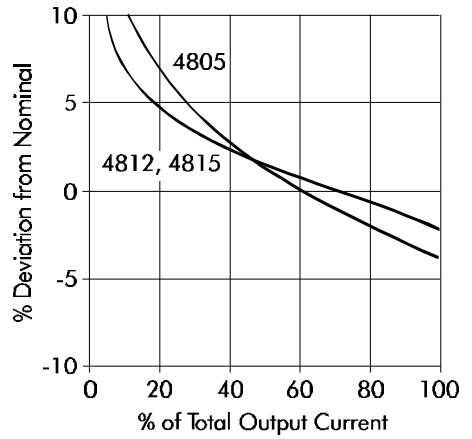
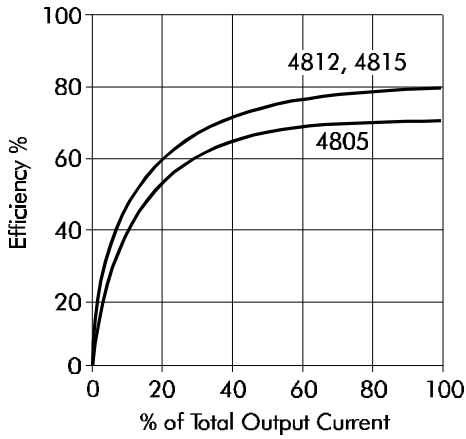
NME24 series



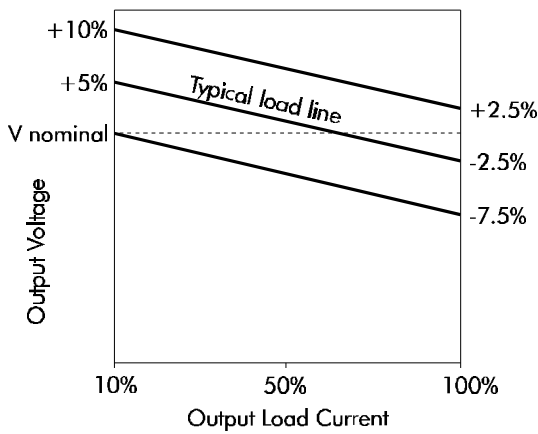
Note All data taken at T = 25 C.

typical characteristics

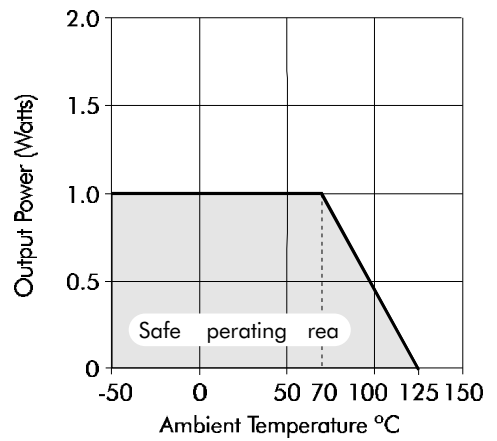
NME48 series



tolerance envelope

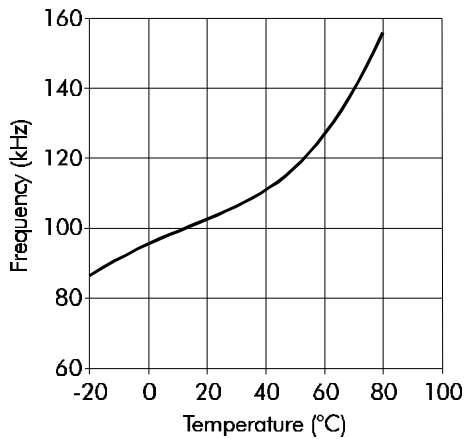


temperature derating graph



See application notes on page 2-132

temperature test under full load



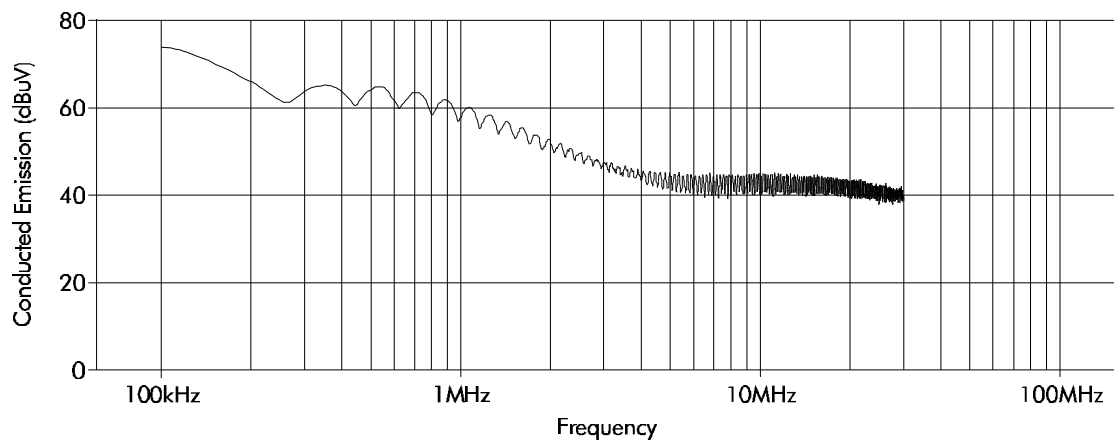
Note: All data taken at T = 25°C.

NME SERIES

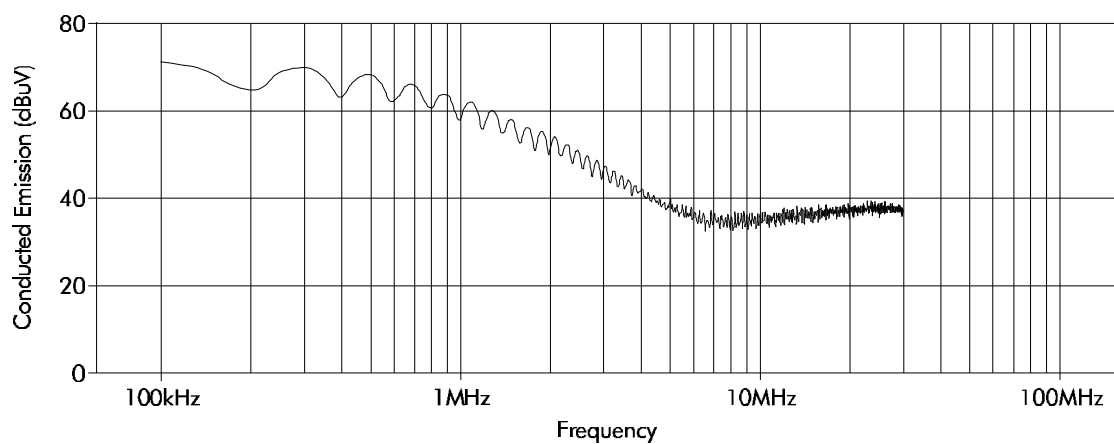
Isolated 1W Single Output

typical characteristics

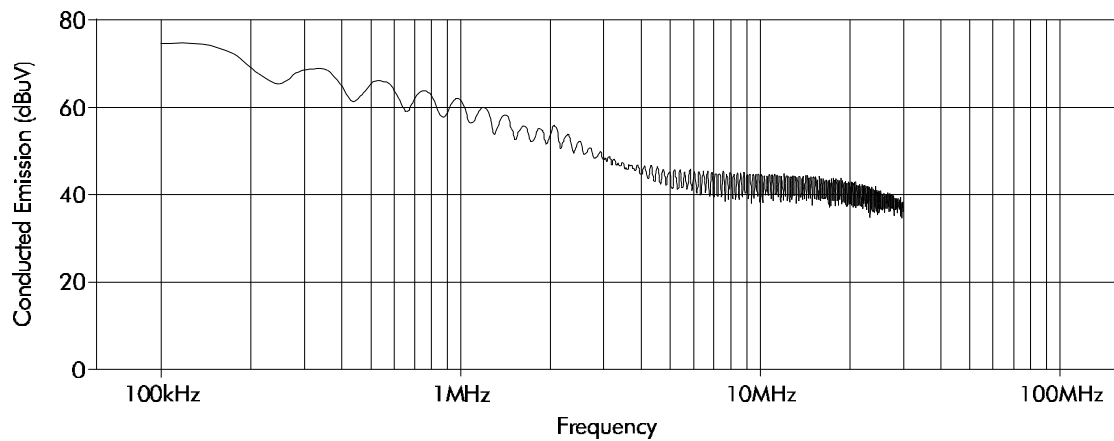
NME03 series spectrum analysis RBW 100kHz



NME05 series spectrum analysis RBW 100kHz



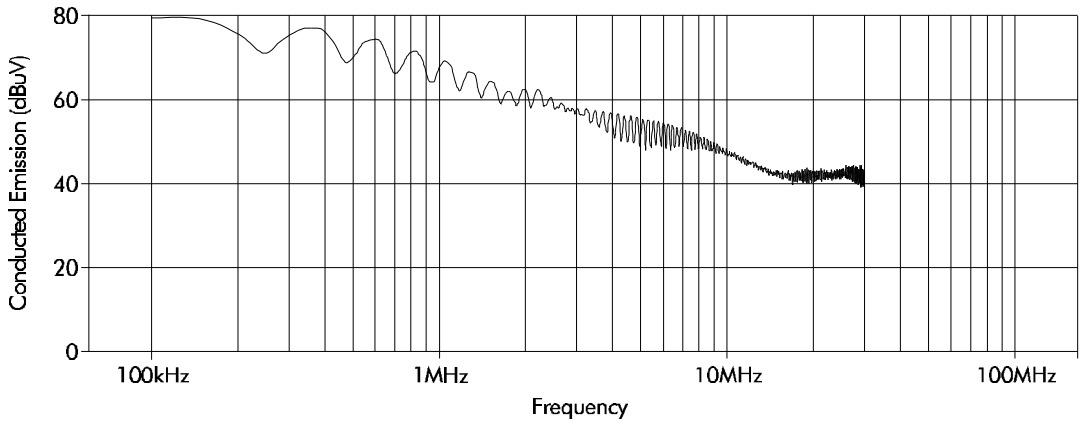
NME12 series spectrum analysis RBW 100kHz



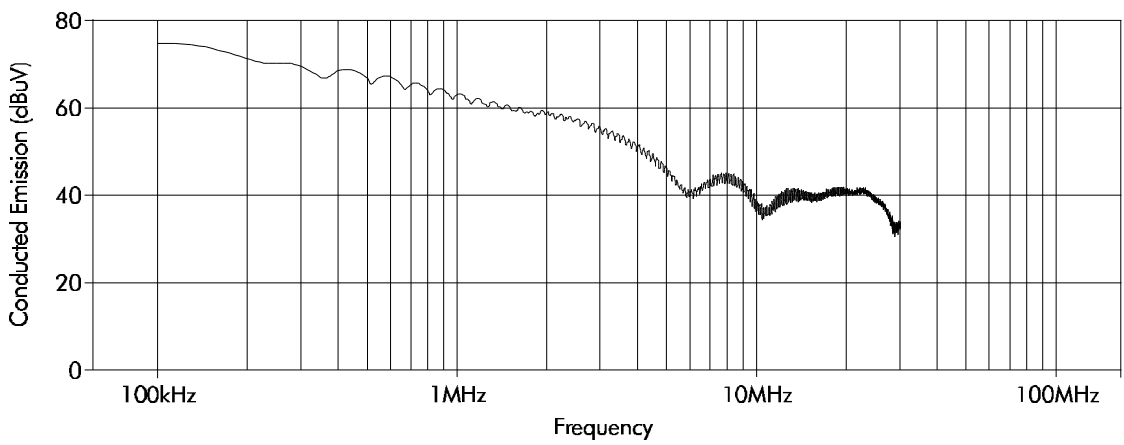
Note All data taken at T = 25 C.

typical characteristics

NME24 series spectrum analysis RBW 100kHz



NME48 series spectrum analysis RBW 100kHz



Note All data taken at T = 25 C.

NME SERIES

Isolated 1W Single Output

mean time to failure (MTTF) in thousands of hours

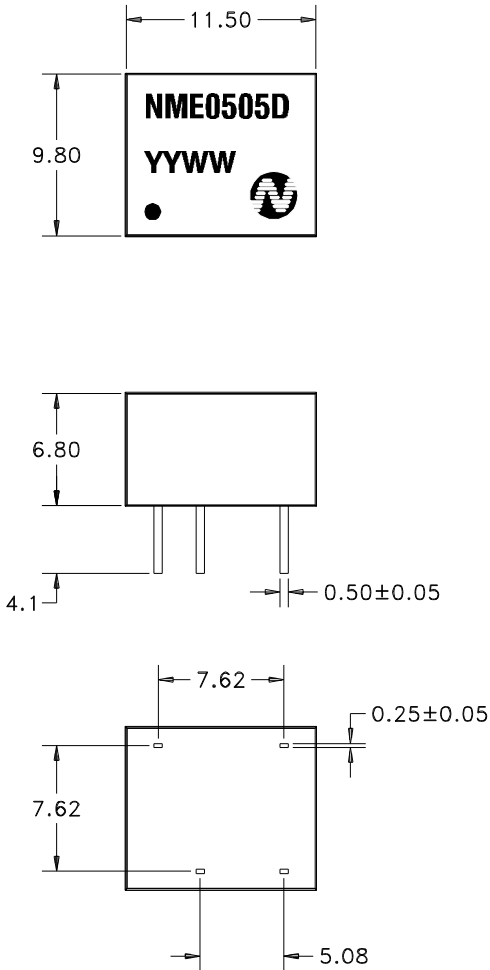
Part Number	-25 C	25 C	70 C
NME0305	32 0	27 1	2312
NME030	145	124	107
NME0312	75	55	571
NME0315	424	3 7	321
NME0503	317	2 3	2250
NME0505	2 5	22 5	1 15
NME050	131	1137	84
NME0512	720	23	544
NME0515	411	357	313
NME1205	1	535	4
NME120	501	434	37
NME1212	380	330	28
NME1215	272	23	208
NME2405	231	201	17
NME240	213	185	102
NME2412	187	1 3	143
NME2415	157	13	120
NME4805	24	213	187
NME480	224	1 4	171
NME4812	1 5	1 4	14
NME4815	1 1	140	123

Note MTT figures derived from hybrid model of MI - D -217 .

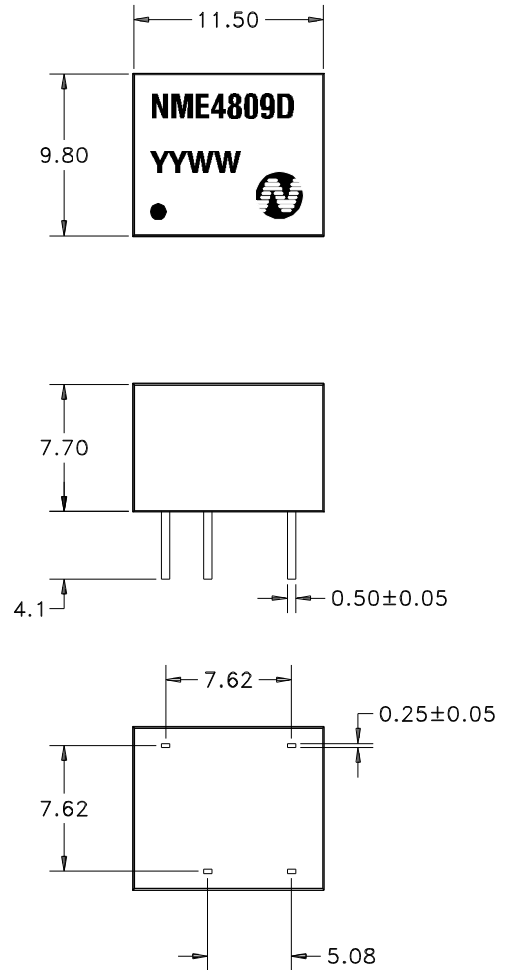
outline dimensions

8 Pin DIP package styles

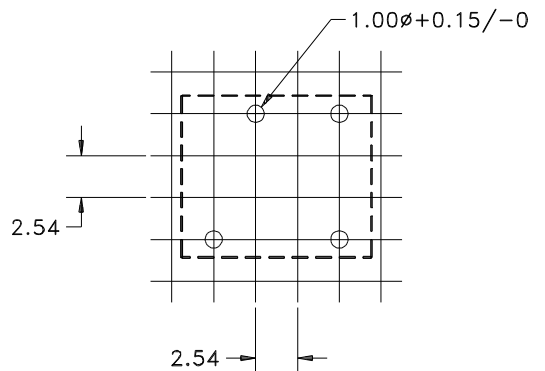
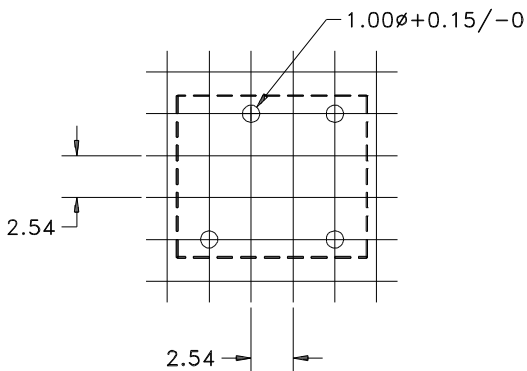
1



2



recommended footprint details



|| pins on a 2.54mm pitch.

|| dimensions in mm . ±0.50 . ±0.25

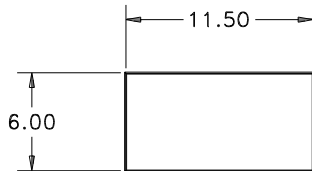
NME SERIES

Isolated 1W Single Output

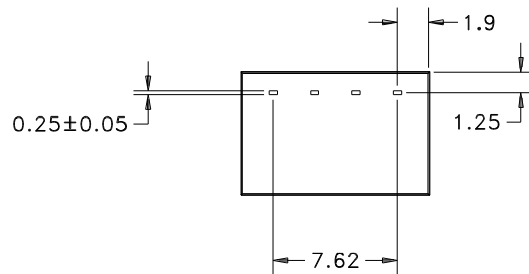
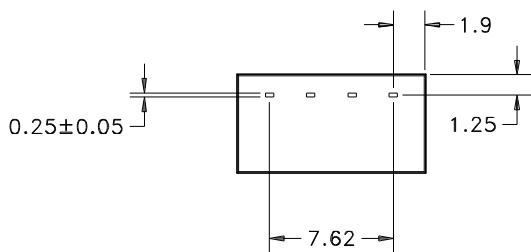
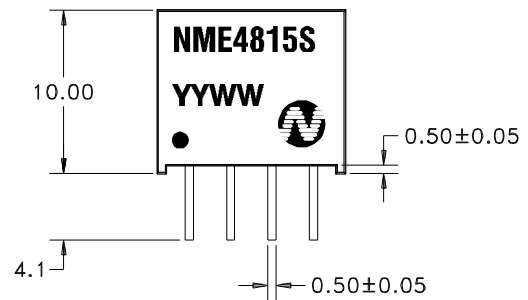
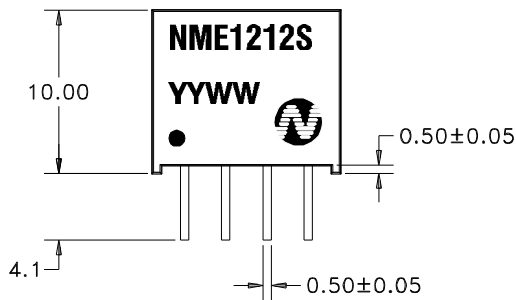
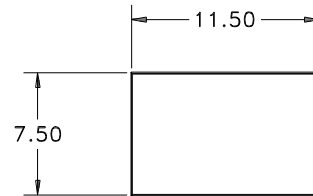
outline dimensions

4 Pin SIP package styles

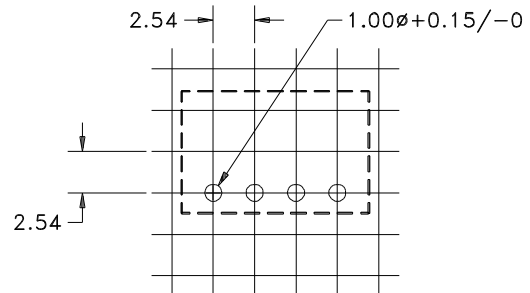
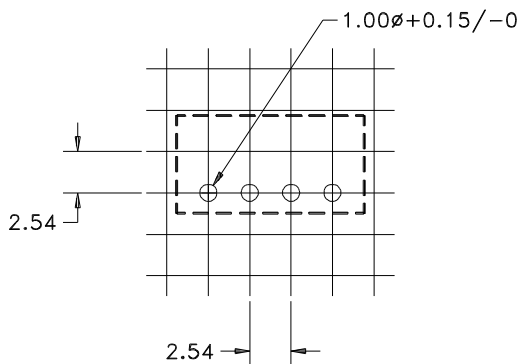
3



4



recommended footprint details



Pin pitch on a 2.54mm.

Dimensions in mm . ±0.50 . ±0.25

