

**FEATURES**

- Wide Temperature Performance at full 1 Watt load, -40°C to 85°C
- Single Isolated Output
- Industry Standard Pinout
- 1kVDC Isolation
- Efficiency to 80%
- Power Density 1.53W/cm<sup>3</sup>
- 5V & 12V Input
- 5V, 9V, 12V and 15V Output
- Footprint from 0.69cm<sup>2</sup>
- UL 94V-0 Package Material
- No Heatsink Required
- Internal SMD Construction
- Toroidal Magnetics
- Fully Encapsulated
- No External Components Required
- MTF up to 2.9 Million Hours
- Custom Solutions Available
- Pin Compatible with LME & NML Series
- SIP & DIP Package Styles
- PCB Mounting

**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. The wide temperature range guarantees startup from -40°C and full 1 watt output at 85°C.

**SELECTION GUIDE**

	Nominal Input Voltage	Output Voltage	Output Current	Input Current at Rated Load	Efficiency	Isolation Capacitance	MTTF <sup>1</sup>	Package Style
Order Code	(V)	(V)	(mA)	(mA)	(%)	(pF)	kHrs	
<b>NME0505D</b>	5	5	200	289	69	30	2414	DIP
<b>NME0509D</b>	5	9	111	260	77	37	1173	
<b>NME0512D</b>	5	12	83	256	78	33	633	
<b>NME0515D</b>	5	15	66	250	80	40	360	
<b>NME0524D</b>	5	24	42	248	80	48	290	
<b>NME0505S</b>	5	5	200	289	69	30	2414	SIP
<b>NME0509S</b>	5	9	111	260	77	37	1173	
<b>NME0512S</b>	5	12	83	256	78	33	633	
<b>NME0515S</b>	5	15	66	250	80	40	360	
<b>NME0524S</b>	5	24	42	248	80	48	290	
<b>NME1205D</b>	12	5	200	120	69	33	620	DIP
<b>NME1209D</b>	12	9	111	115	74	48	488	
<b>NME1212D</b>	12	12	83	110	76	55	360	
<b>NME1215D</b>	12	15	66	111	75	52	252	
<b>NME1205S</b>	12	5	200	120	69	33	620	SIP
<b>NME1209S</b>	12	9	111	115	74	48	488	
<b>NME1212S</b>	12	12	83	110	76	55	360	
<b>NME1215S</b>	12	15	66	111	75	52	252	

When operated with additional external load capacitance the rise time of the input voltage will determine the maximum external capacitance value for guaranteed start up. The slower the rise time of the input voltage the greater the maximum value of the additional external capacitance for reliable start up.

**INPUT CHARACTERISTICS**

Parameter	Conditions	MIN	TYP	MAX	Units
Voltage Range	Continuous operation, 5V input types	4.5	5	5.5	V
	Continuous operation, 12V input types	10.8	12	13.2	
Reflected Ripple Current			26	48	mA p-p

**OUTPUT CHARACTERISTICS**

Parameter	Conditions	MIN	TYP	MAX	Units
Rated Power <sup>2</sup>	T <sub>A</sub> = -40°C to 85°C			1	W
Voltage Set Point Accuracy	See tolerance envelope				
Line Regulation	High V <sub>IN</sub> to low V <sub>IN</sub>		1.0	1.2	%/%
Load Regulation	10% load to rated load, 5V output types		14	15	%
	10% load to rated load, 9V output types		9	10	
	10% load to rated load, 12V output types		7.5	9.5	
	10% load to rated load, 15V output types		7.0	8.5	
Ripple & Noise	BW=DC to 20MHz, 5V output types		85	110	mV p-p
	BW=DC to 20MHz, 9V output types		60	75	
	BW=DC to 20MHz, 12V output types		50	65	
	BW=DC to 20MHz, 15V output types		40	55	

**ABSOLUTE MAXIMUM RATINGS**

Short-circuit duration <sup>3</sup>	1 second
Internal power dissipation	450mW
Lead temperature 1.5mm from case for 10 seconds	300°C
Input voltage V <sub>IN</sub> , NME05 types	7V
Input voltage V <sub>IN</sub> , NME12 types	15V

1 Calculated using MIL-HDBK-217F with nominal input voltage at full load.

2 See derating curve

3 Supply voltage must be discontinued at the end of the short circuit duration.

All specifications typical at T<sub>A</sub>=25°C, nominal input voltage and rated output current unless otherwise specified.

# NME 5V & 12V SERIES

## Isolated 1W Single Output DC-DC Converters

### ISOLATION CHARACTERISTICS

Parameter	Conditions	MIN	TYP	MAX	Units
Isolation Test Voltage	Flash tested for 1 second	1000			VDC
Resistance	Viso=500VDC		10		G

### GENERAL CHARACTERISTICS

Parameter	Conditions	MIN	TYP	MAX	Units
Switching Frequency	5V input types		110		kHz
	12V input types		145		

### TEMPERATURE CHARACTERISTICS

Parameter	Conditions	MIN	TYP	MAX	Units
Specification	All output types	-40		85	°C
Storage		-50		130	°C
Case Temperature Above Ambient	5V output types			41	°C
	All other output types			32	
Cooling	Free air convection				

### PIN CONNECTIONS

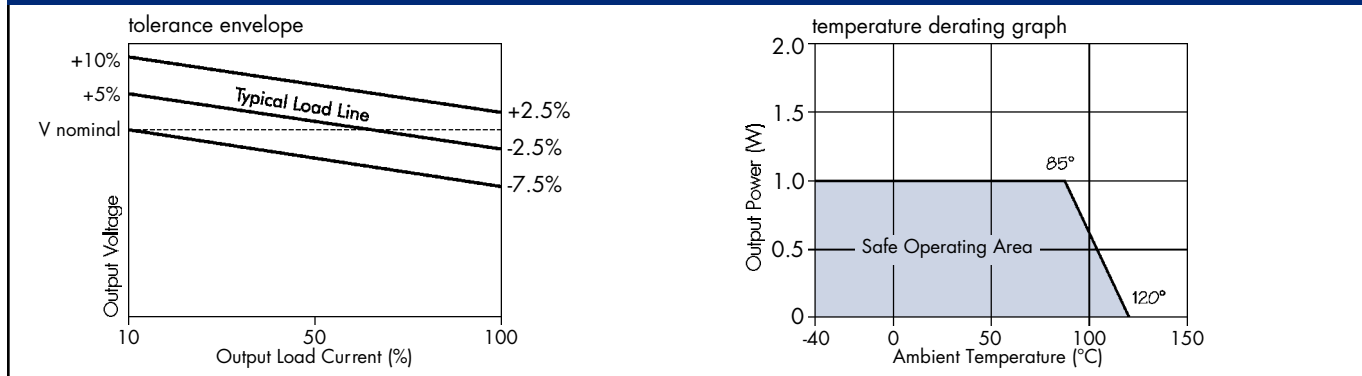
8 Pin DIP

PIN	
1	GND
4	VIN
5	+V
7	OV

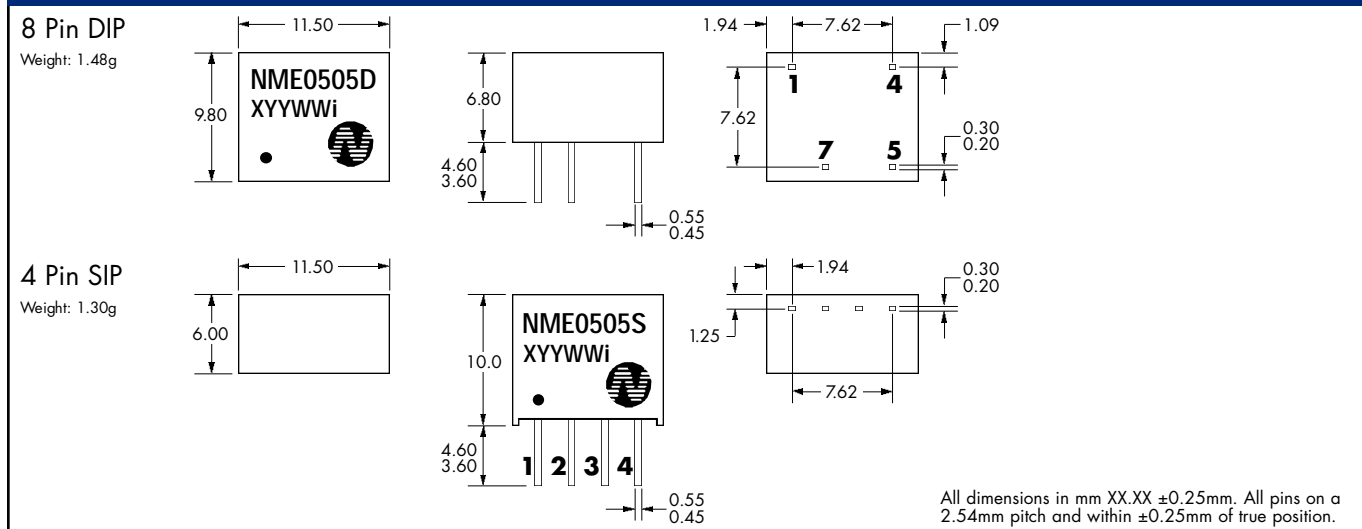
4 Pin SIP

PIN	
1	GND
2	VIN
3	OV
4	+V

### PERFORMANCE CHARACTERISTICS



### MECHANICAL DIMENSIONS



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