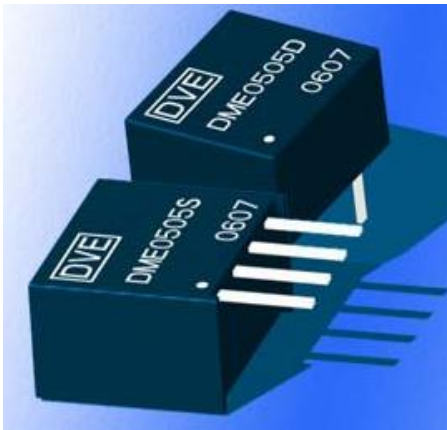




**DME Series**  
Isolated 250mW Single Output DC-DC Converters



**FEATURES**

- Efficiency up to 68%
- Small Footprint
- Miniature SIP/DIP Package
- Single Output Voltage
- 1kVDC Isolation
- Temperature Range -40°C to 85°C
- Industry Standard Pinout
- UL 94V-0 Package Material
- No Heatsink required
- No External Component Required
- PCB Mounting
- MTF>3,500,000 hours

**APPLICATIONS**

The DME Series are specially designed for applications where a single power supply is isolated from the input power supply in a distributed power supply system on a circuit board.

These products apply to:

- 1) Where the voltage of the input power supply is fixed (voltage variation  $\leq \pm 10\%$ );
- 2) Where isolation is necessary between input and output (isolation voltage = 1000VDC);
- 3) Where the regulation of the output voltage and the output ripple and noise are not demanding.

Such as: purely digital circuits, ordinary low frequency analog circuits and IGBT power device driven circuits, etc.

**SELECTION GUIDE**

	Nominal Input Voltage (V)	Rated Output Voltage (V)	Output Current (mA)		Efficiency (% Typ)	Package Style
			Min	Max		
Order Code	(V)	(V)	(mA)	(mA)	(%, Typ)	
DME0505D	5	5	5	50	64	DIP
DME0505S	5	5	5	50	64	SIP
DME0509D	5	9	6	28	65	DIP
DME0509S	5	9	6	28	65	SIP
DME0512D	5	12	5	21	66	DIP
DME0512S	5	12	5	21	66	SIP
DME0515D	5	15	4	17	67	DIP
DME0515S	5	15	4	17	67	SIP
DME1205D	12	5	5	50	65	DIP
DME1205S	12	5	5	50	65	SIP
DME1209D	12	9	6	28	66	DIP
DME1209S	12	9	6	28	66	SIP
DME1212D	12	12	5	21	66	DIP
DME1212S	12	12	5	21	66	SIP
DME1215D	12	15	4	17	68	DIP
DME1215S	12	15	4	17	68	SIP

**INPUT CHARACTERISTICS**

Parameter	Conditions	MIN	TYP	MAX	Units
Voltage Range	All DME05 Types	4.5	5	5.5	VDC
	All DME12 Types	10.8	12	13.2	

**OUTPUT CHARACTERISTICS**

Parameter	Conditions	MIN	TYP	MAX	Units
Output Power				0.25	W
Output Voltage Accuracy	See tolerance envelope graph				
Line Regulation	For $V_{IN}$ change of 1%			1.2	%
Load Regulation	10% to 100% full Load			15	%
Temperature Drift	100% full load			0.03	%/°C
Temperature Rise	Full load		15	25	°C
Ripple	B/W=DC to 20MHz		50	75	mV p-p

**ABSOLUTE MAXIMUM RATINGS**

Short-circuit protection	1 second
Lead temperature 1.5mm from case for 10 seconds	300°C

1 All specifications measured at  $T_A=25^\circ\text{C}$ , humidity<75%, nominal input voltage and rated output load unless otherwise specified.

2 See below recommended circuits for more details.



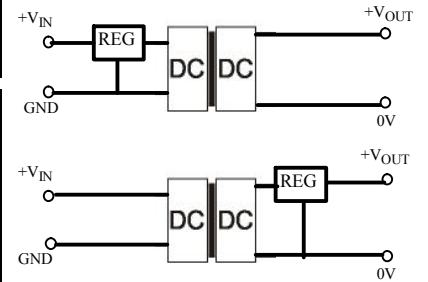
**DME Series**  
Isolated 250mW Single Output DC-DC Converters



ISOLATION CHARACTERISTICS					
Parameter	Conditions	MIN	TYP	MAX	Units
Isolation Test Voltage	Flash Test for 1 minute	1000			VDC
Resistance	Viso=500VDC	1			GΩ

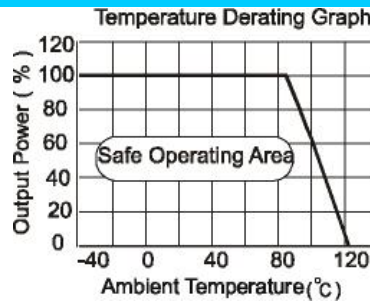
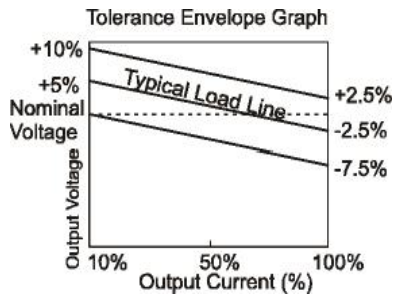
GENERAL CHARACTERISTICS					
Parameter	Conditions	MIN	TYP	MAX	Units
Switching Frequency	Full load, nominal input voltage		100		kHz

ENVIRONMENTAL					
Parameter	Conditions	MIN	TYP	MAX	Units
Operation		-40		85	°C
Storage temperature		-55		125	°C
Storage humidity				95	%
Cooling	Free air convection				

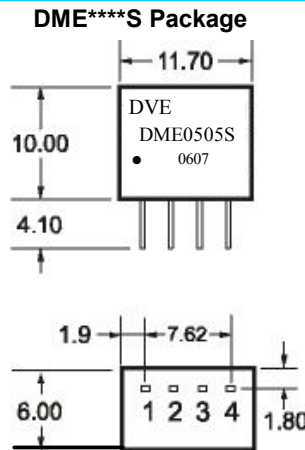


<Figure 2>

**TYPICAL CHARECTERISTICS**

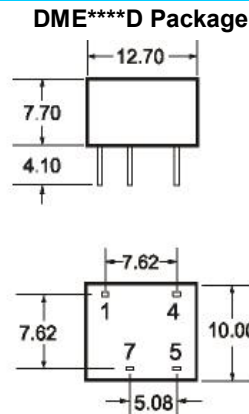
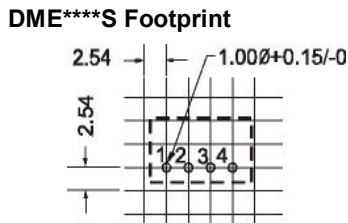


**OUTLINE DIMENSIONS & RECOMMENDED FOOTPRINT**

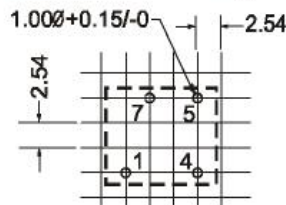


Side View

Bottom View



DME\*\*\*\*D Footprint



**Output Voltage Regulation and Over-voltage Protection Circuit**

The simplest device for output voltage regulation, over-voltage and over-current protection is a linear voltage regulator with overheat protection that is connected to the input or output end in series (see Figure 2).

**FOOTPRINT DETAILS**

DME****S Series	
PIN	
1	GND
2	V <sub>IN</sub>

DME****D Series	
PIN	
1	GND
4	V <sub>IN</sub>