
EMI FILTER/TVS ARRAY

APPLICATIONS

- ✓ Cellular Phones
- ✓ Color Display Panel
- ✓ Notebooks
- ✓ Personal Digital Assistant (PDA)
- ✓ Ground Positioning System (GPS)
- ✓ SMART Cards

IEC COMPATIBILITY (EN61000-4)

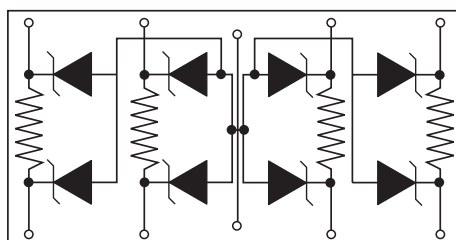
- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns

FEATURES

- ✓ ESD Protection > 25 kilovolts
- ✓ Bidirectional EMI Filtering/TVS Low Pass Filters
- ✓ Low Insertion Loss: -3db Roll-Off @ 132MHz
- ✓ Protects Up to Four(4) Data Lines

MECHANICAL CHARACTERISTICS

- ✓ Flip Chip Package
- ✓ Weight 0.73 milligrams (Approximate)
- ✓ Flammability rating UL 94V-0
- ✓ 8mm Tape and Reel Per EIA Standard 481

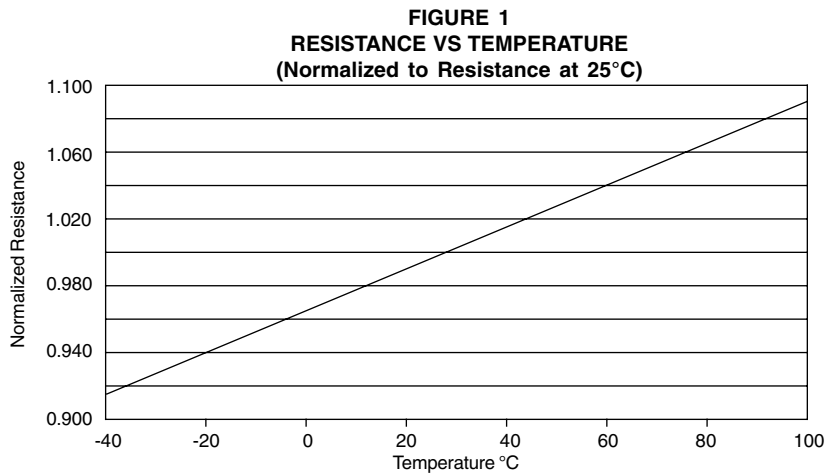
PIN CONFIGURATION

DEVICE CHARACTERISTICS

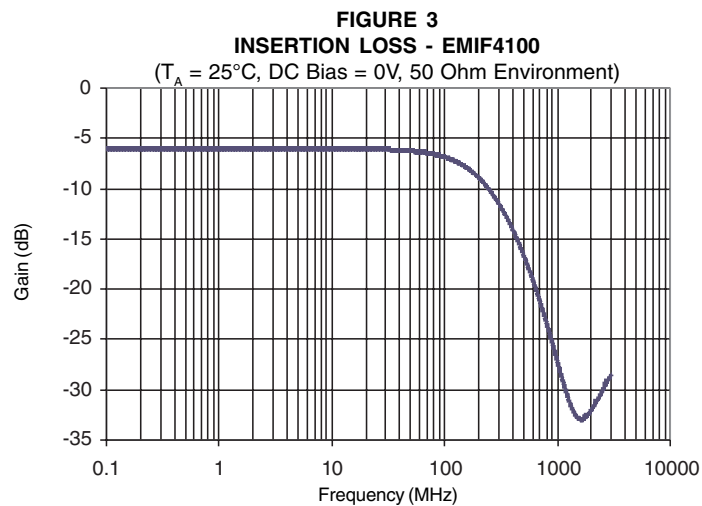
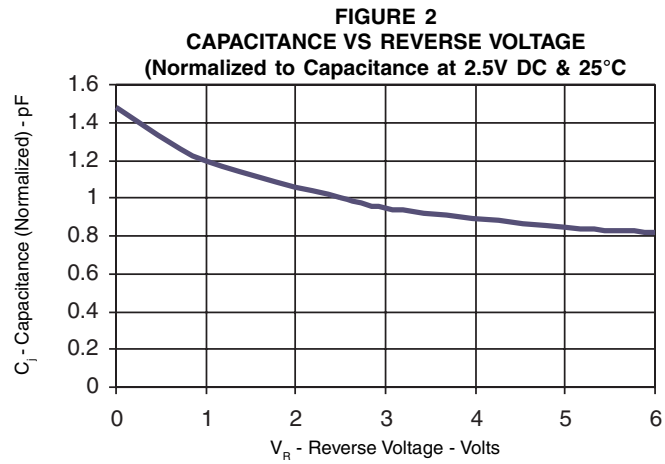
MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Operating Temperature	T_J	-40°C to 85°C	°C
Storage Temperature	T_{STG}	-55°C to 150°C	°C
DC Power Per Resistor	P	400	mW
Typical Resistance @ $\pm 20\%$	R	100	OHMS

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified							
PART NUMBER	RATED STAND-OFF VOLTAGE	MINIMUM BREAKDOWN VOLTAGE	MAXIMUM REVERSE LEAKAGE CURRENT	TYPICAL FORWARD VOLTAGE	MINIMUM ATTENUATION	CUT-OFF FREQUENCY (50 Ohms I/O ZERO BIAS)	TYPICAL CAPACITANCE PER LINE (See Note 1)
	V_{WM} VOLTS	@ 1mA $V_{(BR)}$ VOLTS	@ 3V I_D μA	@ 10mA V_F VOLTS	@ 800-3000 MHz dB	f_c MHz	@ 2.5V, 1 MHz C pF
EMIF4100	5.0	6.0	0.1	0.8	28	132	30

Note 1: 42pF @ 0V, 1MHz, $\pm 20\%$ tolerance.



GRAPHS



APPLICATION INFORMATION

PRINTED CIRCUIT BOARD RECOMMENDATIONS	
PARAMETER	VALUE
Pad Size on PCB	0.275mm
Pad Shape	Round
Pad Definition	Non-Solder Mask Defined Pads
Solder Mask Opening	0.325mm Round
Solder Stencil Thickness	0.150mm
Solder Stencil Aperture Opening (laser cut, 5% tapered walls)	0.330mm Round
Solder Flux Ratio	50/50 By Volume
Solder Paste Type	No Clean
Pad Protective Finish	OSP(Entek Cu Plus 106A)
Tolerance - Edge To Corner Ball	$\pm 50\mu\text{m}$
Solder Ball Side Coplanarity	$\pm 20\mu\text{m}$
Maximum Dwell Time Above Liquidous (183°C)	60 Seconds
Soldering Maximum Temperature	240°C

FIGURE 5
RECOMMENDED NON-SOLDER MASK DEFINED PAD ILLUSTRATION

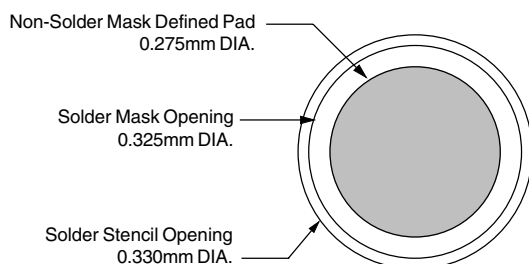
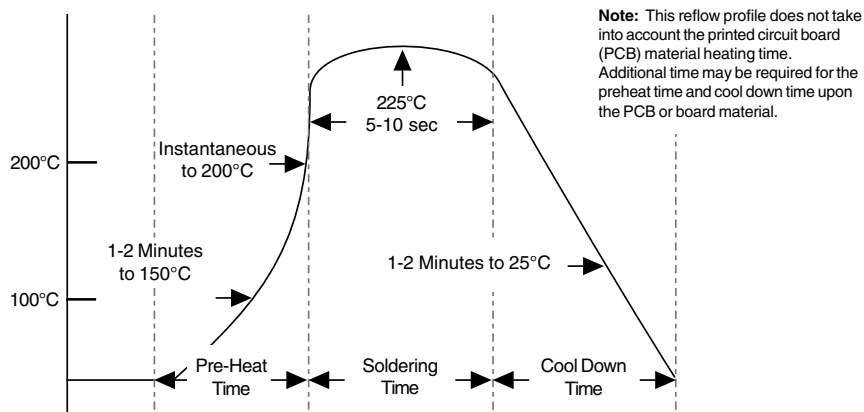
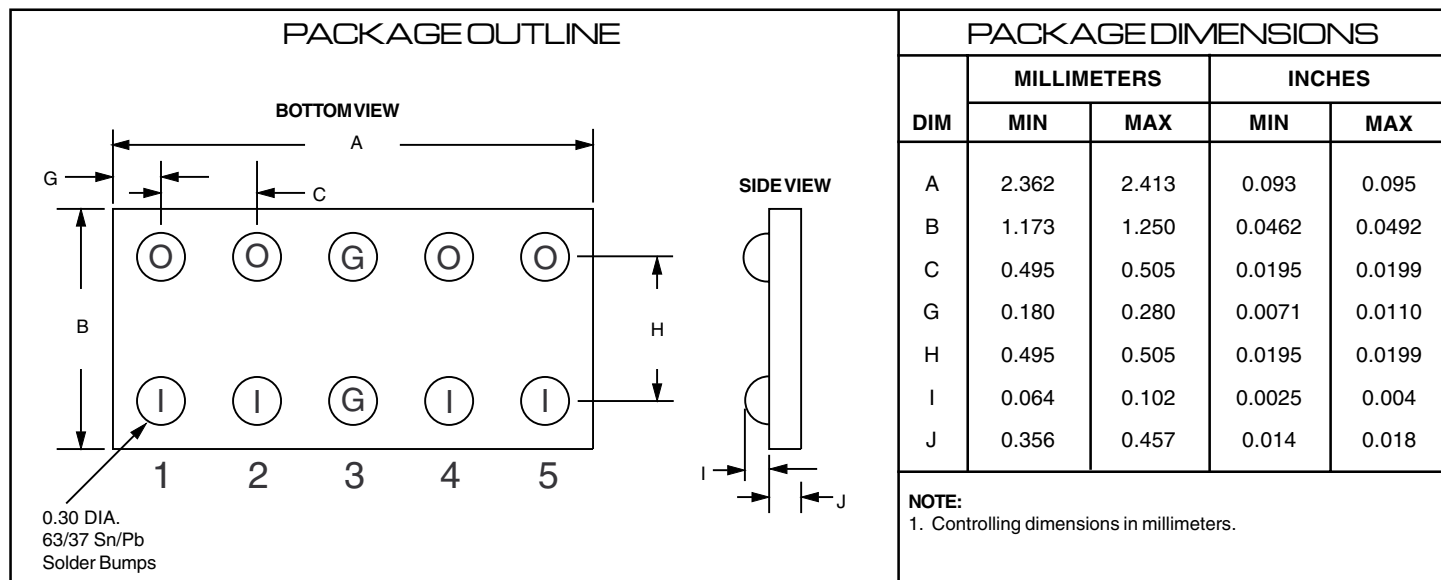


FIGURE 6
SOLDER REFLOW PROFILE

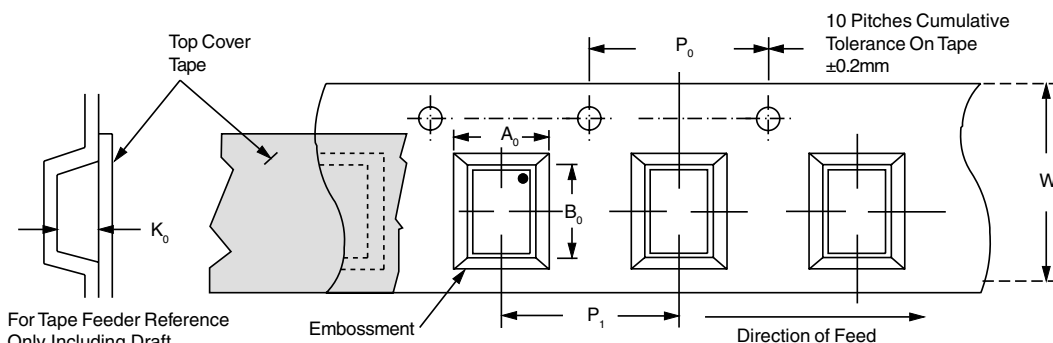


PACKAGE OUTLINE & DIMENSIONS



TAPE & REEL SPECIFICATIONS

PART NUMBER	CHIP SIZE (mm)	POCKET SIZE (mm) $B_0 \times A_0 \times K_0$	TAPE WIDTH W	REEL DIAMETER	QTY PER REEL	P_0	P_1
EMIF4100	2.96 x 1.33 x 0.6	3.18 x 1.52 x 0.76	8mm	7"	5,000	4mm	4mm



Outline & Dimensions: Rev 0 - 8/03, 60xx

TAPE & REEL ORDERING NOMENCLATURE

- Surface mount product is taped and reeled in accordance with EIA-481.
- Suffix-T75-1 = 7 Inch Reel - 5,000 pieces per 8mm reel, i.e., EMIF4100-T7.

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