

Features

- Lead free as standard
- RoHS compliant*
- ESD protection >25 kV
- Protects up to 8 lines
- Bidirectional EMI filtering
- DFN-16 package

Applications

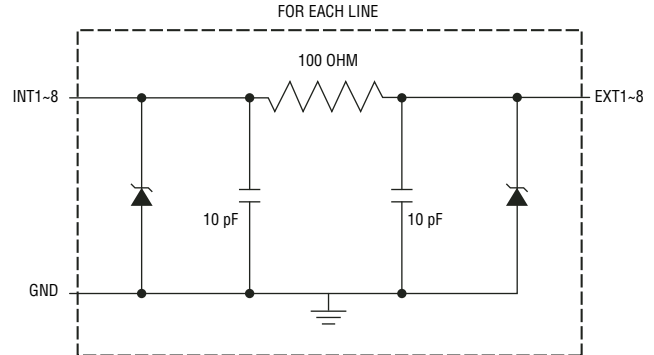
- Cell phones
- PDAs and notebooks
- GPS and SMART cards
- Color LCD display panel

2FAL-M16R Integrated Passive & Active Devices

General Information

The 2FAL-M16R device, manufactured using Thin Film on Silicon technology, provides ESD protection for the external ports of portable electronic devices such as cell phones, notebooks and PDAs.

The ESD protection provided by the component enables a data port to withstand a minimum ± 8 KV Contact / ± 15 KV Air Discharge per the ESD test method specified in IEC 61000-4-2. The device measures 4 mm x 1.7 mm and can be mounted directly onto an FR4 printed circuit board. The device meets typical thermal cycle and bend test specifications without the use of an underfill material.



Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

Parameter	Symbol	Min.	Nom.	Max.	Unit
Resistance	R	85	100	115	Ω
Capacitance @ 2.5 V, 1 MHz	C	16	20	24	pF
Rated Standoff Voltage	V_{WM}			5	V
Breakdown Voltage @ 1 mA	V_{BR}	6			V
Forward Voltage @ 10 mA	V_F		0.8		V
Leakage Current @ 3 V	I_D			0.1	μA
ESD Protection: IEC 61000-4-2					
Contact Discharge		± 8			kV
Air Discharge		± 15			kV
Frequency:					
Attenuation @ 800-3000 MHz	f_c	25	35		db
Cut-off (50 Ω I/O) Zero Bias			150		MHz
DC Power per Resistor	P			100	mW

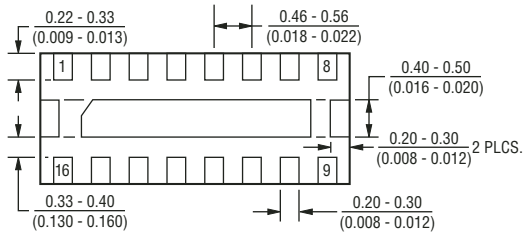
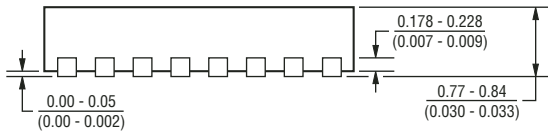
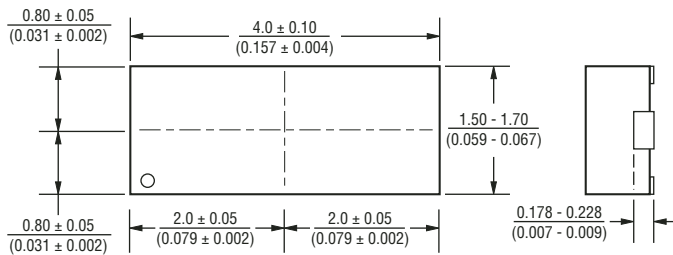
Thermal Characteristics (@ $T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

Parameter	Symbol	Min.	Nom.	Max.	Unit
Operating Temperature Range	T_J	-40	+25	+85	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55	+25	+150	$^\circ\text{C}$

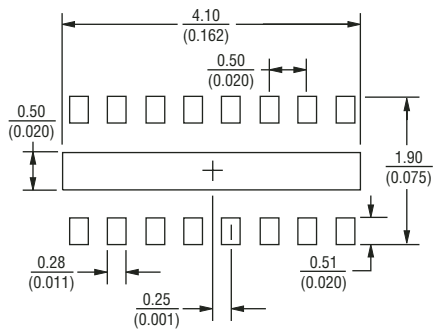
*RoHS Directive 2002/95/EC Jan 27 2003, including Annex Specifications are subject to change without notice. Customers should verify actual device performance in their specific applications.

Product Dimensions

This device consists of a DFN package. It consists of 16 I/O pins and 1 ground pin and has a flammability rating of UL 94V-0. The package measures 4 mm x 1.6 mm, weighs approximately 0.10 mg and has a 100 % Sn finish termination.

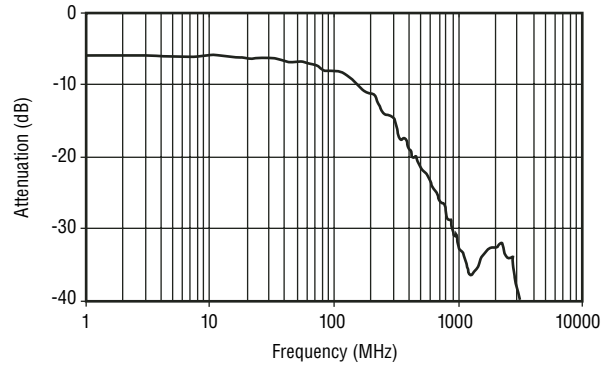


Recommended Pad Layout



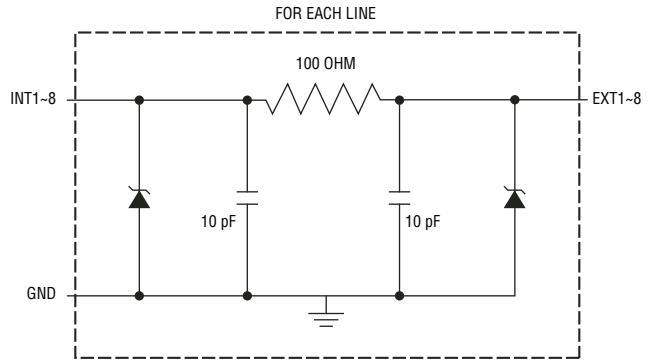
DIMENSIONS = $\frac{\text{MILLIMETERS}}{\text{(INCHES)}}$

Frequency Response



Block Diagram

The device block diagram below includes the pin names and basic electrical connections associated with each channel.



How to Order

2 FAL - M16R

Thinfilm _____

Model _____

Micro Leadframe _____

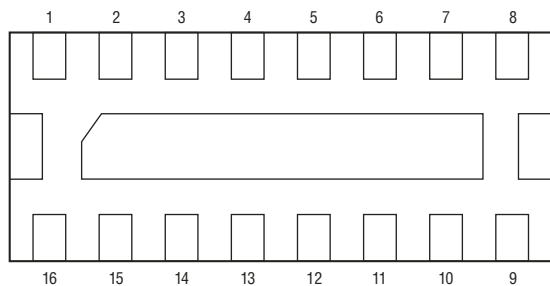
Number of Pads _____

Packaging Option _____

R = Tape and Reel
Packaged 3000 pcs. / 7" reel

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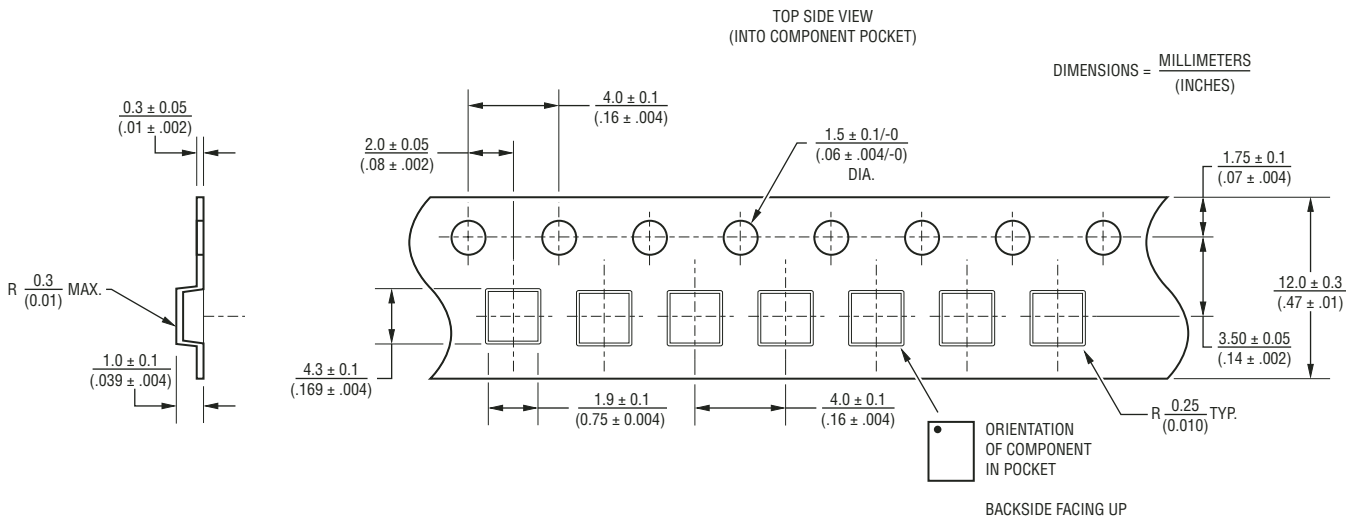
Device Pin Out



Pin	Function	Pin	Function
1	INT 1	9	EXT 8
2	INT 2	10	EXT 7
3	INT 3	11	EXT 6
4	INT 4	12	EXT 5
5	INT 5	13	EXT 4
6	INT 6	14	EXT 3
7	INT 7	15	EXT 2
8	INT 8	16	EXT 1

Packaging

The surface mount product is packaged in a 12 mm x 4 mm Tape and Reel format per EIA-481 standard.



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