

CM6407

EMI Filters with ESD Protection for Data Line Applications

Product Description

The CM6407 is an 18-bump EMI filter with ESD protection device for data line application in a 0.4 mm pitch, 5 x 4 CSP form factor. It is fully compliant with IEC 61000-4-2 Level 4. The CM6407 is RoHS II compliant.

Features

- 18-Bump, 1.96 mm X 1.56 mm Footprint Chip Scale Package
- These Devices are Pb-Free and are RoHS Compliant



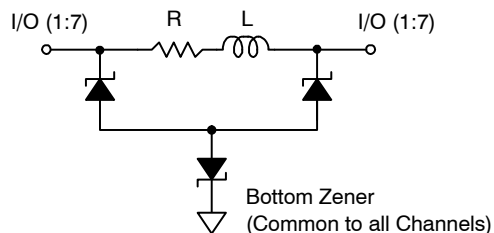
ON Semiconductor®

<http://onsemi.com>

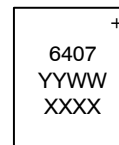


**WLCSP18
CASE 567CG**

ELECTRICAL SCHEMATIC



MARKING DIAGRAM



6407 = CM6407
YYWW = Date Code
XXXX = Last four digits of lot#

ORDERING INFORMATION

Device	Package	Shipping†
CM6407	CSP-18 (Pb-Free)	5000/Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

CM6407

PACKAGE / PINOUT DIAGRAMS

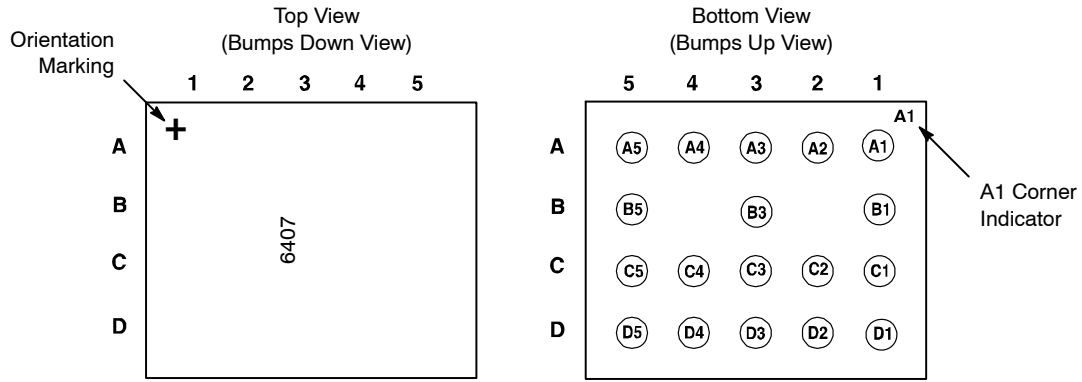


Table 1. PIN DESCRIPTIONS

A5 = Line 1	A4 = Line 2	A3 = GND	A2 = Line 1	A1 = Line 2
B5 = Line 3		B3 = GND		B1 = Line 3
C5 = Line 4	C4 = Line 5	C3 = GND	C2 = Line 4	C1 = Line 5
D5 = Line 6	D4 = Line 7	D3 = GND	D2 = Line 6	D1 = Line 7

ELECTRICAL SPECIFICATIONS AND CONDITIONS

Table 2. PARAMETERS AND OPERATING CONDITIONS

Parameter	Rating	Units
Storage Temperature Range	-55 to +150	°C
Operating Temperature Range	-40 to +85	°C
Power Dissipation at 70°C per Channel	60	mW

Table 3. ELECTRICAL OPERATING CHARACTERISTICS (Note 1)

Symbol	Parameter	Conditions	Min	Typ	Max	Units
R	Resistance		100	125	150	Ω
L	Inductance	(Note 2)		35		nH
C	Capacitance per Channel	At 1 MHz, $V_{IN} = 0$ V	19	24	29	pF
		At 1 MHz, $V_{IN} = 2.5$ V		15		pF
Att(5)	Passband Attenuation at 5 MHz			-7		dB
F_C	Cut-off Frequency	$Z_{SOURCE} = 50 \Omega$, $Z_{LOAD} = 50 \Omega$		250		MHz
V_{BR}	Breakdown Voltage	$I_R = \pm 1$ mA	±6	±7.8	±10	V
I_{LEAK}	Leakage Current per Channel	$V_{IN} = 3.0$ V		10	100	nA
V_{ESD}	ESD Peak Discharge Voltage Protection at All Pins: a) Contact Discharge per IEC 61000-4-2 standard b) Air Discharge per IEC 61000-4-2 standard	(Note 2)	±15 ±15			kV

1. All parameters specified at $T_A = 25^\circ\text{C}$ unless otherwise noted.
2. Standard IEC 61000-4-2 ($C_{Discharge} = 150$ pF, $R_{Discharge} = 330 \Omega$).

CM6407

RF CHARACTERISTICS

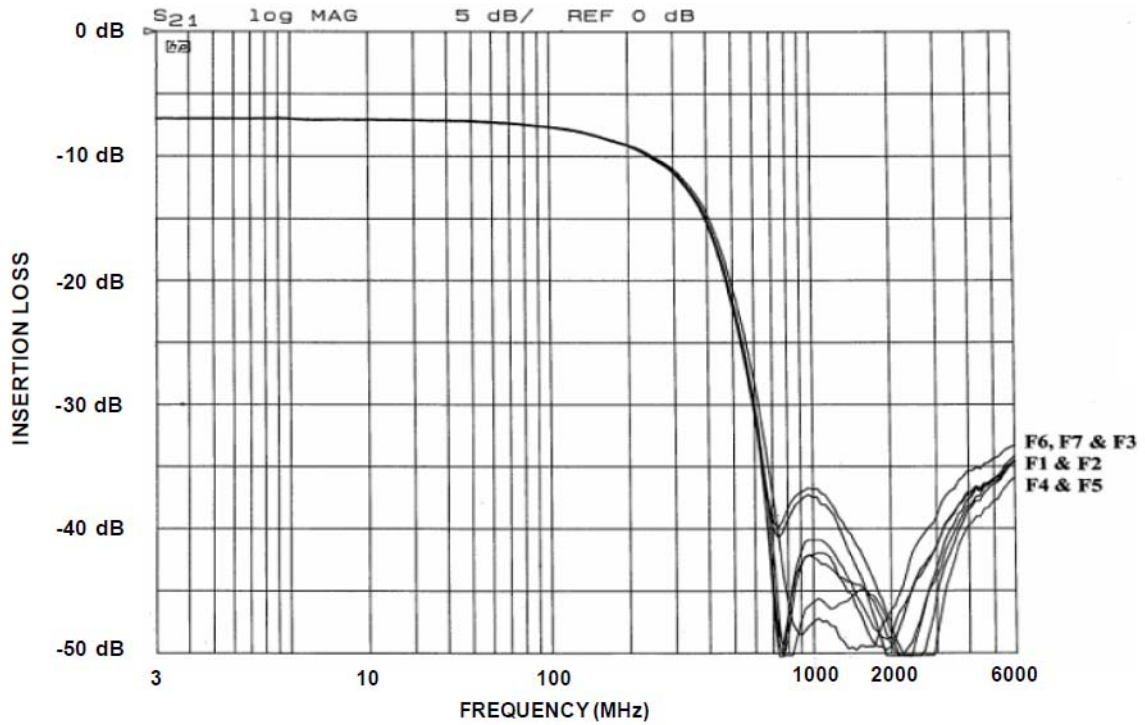
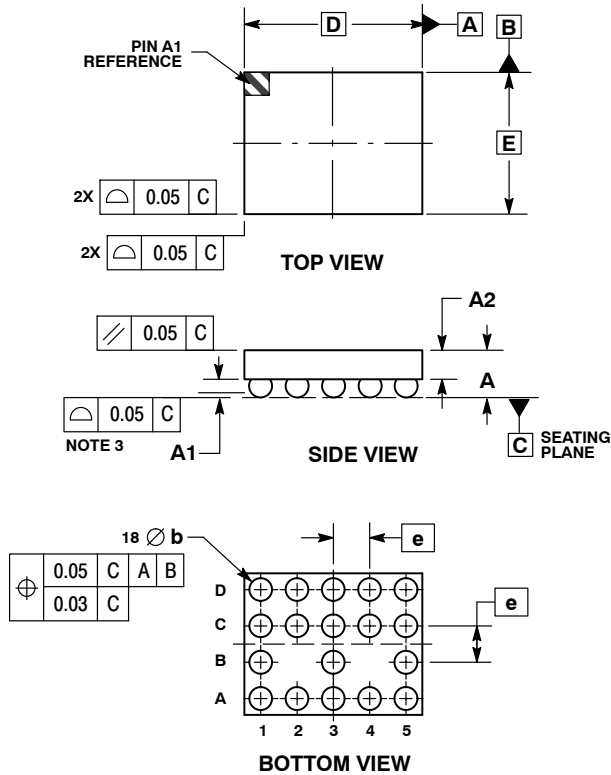


Figure 1. Typical Insertion Loss (Bias = 0 V, T_A = 25°C, 50 Ω Environment)

CM6407

PACKAGE DIMENSIONS

WLCSP18, 1.96x1.56
CASE 567CG-01
ISSUE O

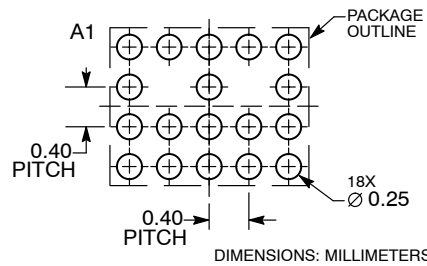


NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. COPLANARITY APPLIES TO SPHERICAL CROWNS OF SOLDER BALLS.

DIM	MILLIMETERS	
	MIN	MAX
A	0.57	0.63
A1	0.17	0.24
A2	0.41	REF
b	0.24	0.29
D	1.96	BSC
E	1.56	BSC
e	0.40	BSC

RECOMMENDED SOLDERING FOOTPRINT*



*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

ON Semiconductor and are registered trademarks of Semiconductor Components Industries, LLC (SCILLC). SCILLC reserves the right to make changes without further notice to any products herein. SCILLC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does SCILLC assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. "Typical" parameters which may be provided in SCILLC data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. SCILLC does not convey any license under its patent rights nor the rights of others. SCILLC products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the SCILLC product could create a situation where personal injury or death may occur. Should Buyer purchase or use SCILLC products for any such unintended or unauthorized application, Buyer shall indemnify and hold SCILLC and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that SCILLC was negligent regarding the design or manufacture of the part. SCILLC is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:

Literature Distribution Center for ON Semiconductor
P.O. Box 5163, Denver, Colorado 80217 USA
Phone: 303-675-2175 or 800-344-3860 Toll Free USA/Canada
Fax: 303-675-2176 or 800-344-3867 Toll Free USA/Canada
Email: orderlit@onsemi.com

N. American Technical Support: 800-282-9855 Toll Free
USA/Canada

Europe, Middle East and Africa Technical Support:
Phone: 421 33 790 2910

Japan Customer Focus Center
Phone: 81-3-5773-3850

ON Semiconductor Website: www.onsemi.com

Order Literature: <http://www.onsemi.com/orderlit>

For additional information, please contact your local Sales Representative