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Product Description

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Applications

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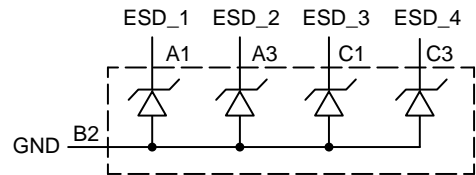
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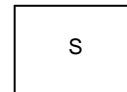


**CSP-5
CP SUFFIX
CASE 567AY**

BLOCK DIAGRAM



MARKING DIAGRAM



S = Specific Device Code

ORDERING INFORMATION

Device	Package	Shipping†
CM1204-03CP	CSP (Pb-Free)	3500/Tape & Reel

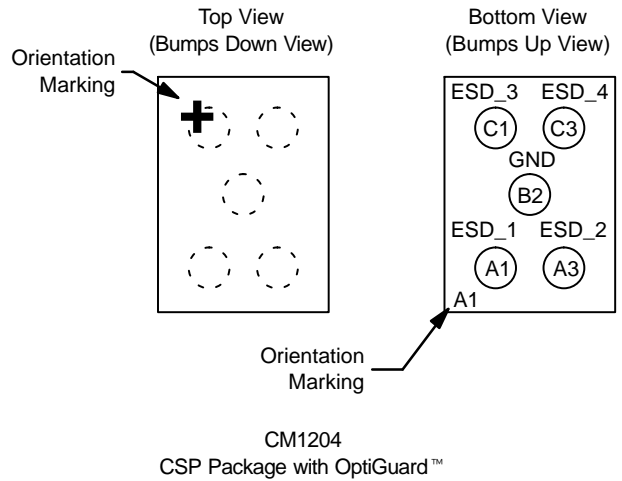
†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

CM1204

Table 1. PIN DESCRIPTIONS

Pin	Name	Description
A1	ESD_1	ESD Channel 1
A3	ESD_2	ESD Channel 2
B2	GND	Device Ground
C1	ESD_3	ESD Channel 3
C3	ESD_4	ESD Channel 4

PACKAGE / PINOUT DIAGRAMS



SPECIFICATIONS

Table 2. ABSOLUTE MAXIMUM RATINGS

Parameter	Rating	Units
Storage Temperature Range	-65 to +150	°C
DC Package Power Rating	200	mW

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

Table 3. STANDARD OPERATING CONDITIONS

Parameter	Rating	Units
Operating Temperature Range	-40 to +85	°C

Table 4. ELECTRICAL OPERATING CHARACTERISTICS (Note 1)

Symbol	Parameter	Conditions	Min	Typ	Max	Units
V_{DIODE}	Diode Reverse Breakdown Voltage	$I_{DIODE} = 10 \mu A$		6.0		V
I_{LEAK}	Diode Leakage Current	$V_{IN} = 3.3 V, T_A = 25^\circ C$			100	nA
V_{SIG}	Signal Voltage Positive Clamp Negative Clamp	$I_{DIODE} = 10 mA$	5.6 -1.5	6.8 -0.8	9.0 -0.4	V
V_{ESD}	In-system ESD Withstand Voltage a) Human Body Model, MIL-STD-883, Method 3015					

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PERFORMANCE INFORMATION

Diode Characteristics (nominal conditions unless specified otherwise)

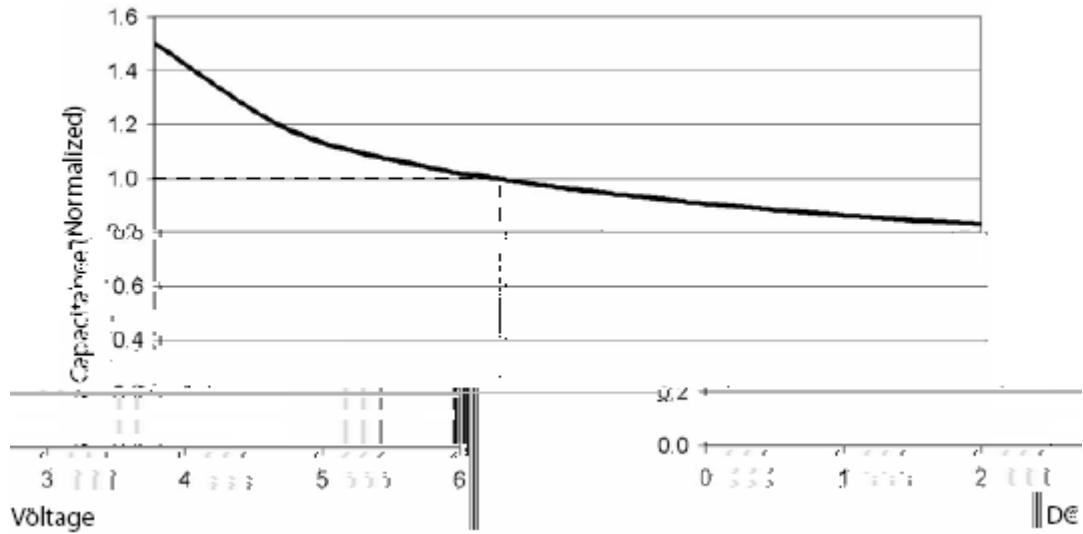


Figure 1. Typical Diode Capacitance vs. Input Voltage (Normalized to 2.5 VDC)

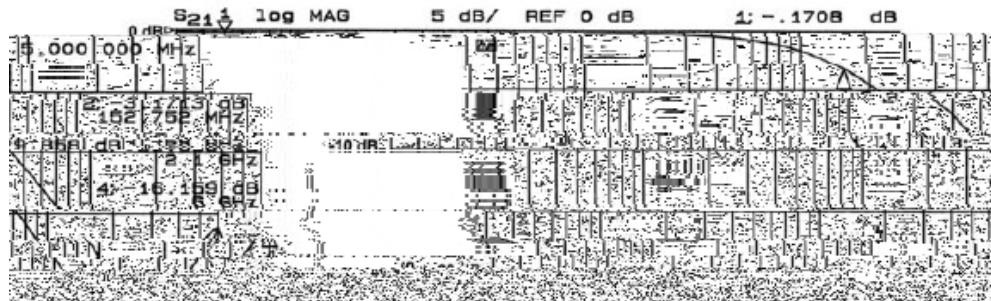


Figure 2. Frequency Response (Single Channel vs. GND, in 50 Ω System)

APPLICATION INFORMATION

Table 5. PRINTED CIRCUIT BOARD RECOMMENDATIONS

Parameter	Value
Pad Size on PCB	0.275 mm
Pad Shape	Round
Pad Definition	Non-Solder Mask defined pads
Solder Mask Opening	0.325 mm Round
Solder Stencil Thickness	0.125 mm – 0.150 mm
Solder Stencil Aperture Opening (laser cut, 5% tapered walls)	0.330 mm Round
Solder Flux Ratio	50/50 by volume
Solder Paste Type	No Clean
Pad Protective Finish	OSP (Entek Cu Plus 106 A)
Tolerance — Edge To Corner Ball	±50 µm
Solder Ball Side Coplanarity	±20 µm
Maximum Dwell Time Above Liquidous	60 seconds
Maximum Soldering Temperature	260°C

Figure 3. Recommended Non-Solder Mask Defined Pad Illustration

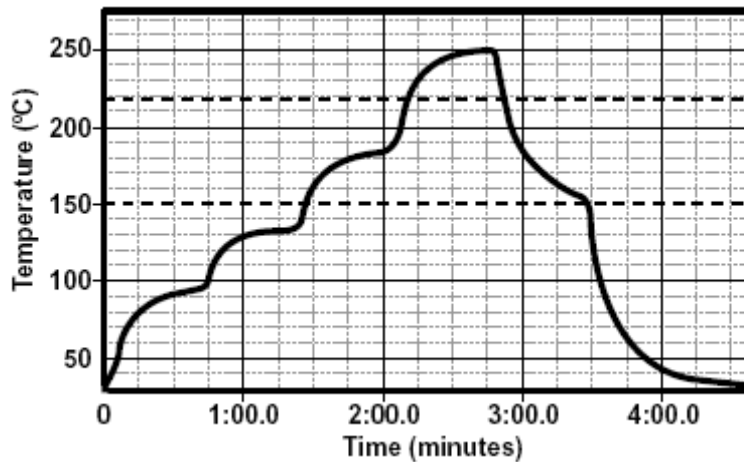
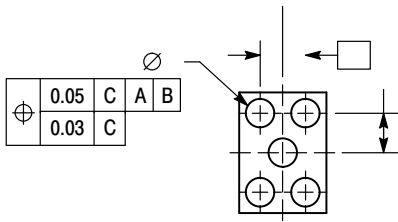
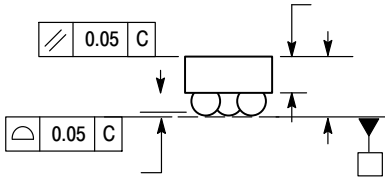
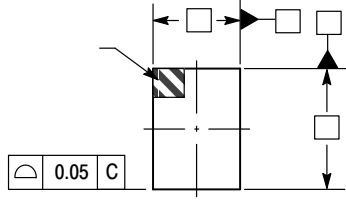


Figure 4. Lead-free (SnAgCu) Solder Ball Reflow Profile



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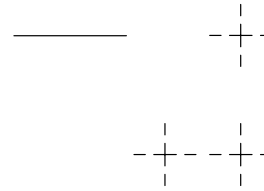
DATE 26 JUL 2010



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

	0.56	0.72
	0.21	0.27

	0.29	0.35
	0.96 BSC	
	1.33 BSC	
	0.50 BSC	
	0.435 BSC	



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