

CM1753

1-Channel ESD Protector

Product Description

The CM1753 provides robust ESD protection for sensitive parts that may be subjected to electrostatic discharge (ESD). The tiny form factor and single wirebond requirement enable it to be used in very confined spaces. This device is designed and characterized to safely dissipate ESD strikes of at least ± 8 kV, according to the MIL-STD-883 (Method 3015) specification for Human Body Model (HBM) ESD.

Features

- Compact Die Protects from ESD Discharges
- Almost No Conduction at Signal Amplitudes Smaller than -45 V
- ESD Protection Over ± 8 kV Contact Discharge per MIL_STD_883 International ESD Standard

Applications

- LED Lighting
- Modules
- Interface Circuits



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ELECTRICAL SCHEMATIC

Au (Gold) bondpad on topside
("Signal" node mentioned in
Electrical Specification table)



Bare Silicon on backside
(Reference node)

ORDERING INFORMATION

See detailed ordering and shipping information in the package dimensions section on page 2 of this data sheet.

CM1753

ORDERING INFORMATION

Ordering Part Number	Topside Metal	Backside Metal	BG Thickness	Shipping Method
CM1753-1004YT	Au (Gold)	Bare Silicon	4 mils	Wafer Form

OPERATING CONDITIONS

Parameter	Rating	Unit
Operating Temperature Range	-40 to +125	°C
Storage Temperature Range	-65 to +150	°C

ELECTRICAL OPERATING CHARACTERISTICS

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
I_{LEAK}	Leakage Current	$V = -35\text{ V}, 25^\circ\text{C}$			100	nA
		$V = -45\text{ V}, 25^\circ\text{C}$			500	nA
V_{CL}	Signal Clamp Voltage Positive polarity on signal node (V_{CL+}) Negative polarity on signal node (V_{CL-})	$T_A = 25^\circ\text{C};$ at 10 mA (I_{CL+}) at -10 mA (I_{CL-}) (Note 1)	0.4 -57.0	0.8 -52.0	1.5 -47.0	V
V_{ESD}	ESD Protection – withstand voltage: Human Body Model (MIL-STD-883, Method 3015)	$T_A = 25^\circ\text{C}$ (Note 2)	± 8			kV

1. V_{CL-} is measured with a -10 mA pulse at 1 ms.
2. This parameter is guaranteed by design.

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MECHANICAL DETAILS

MECHANICAL SPECIFICATIONS

Parameter	Condition	Unit
Composition	Silicon wafer, n+ doped	
Wafer Diameter	150	mm
Die shape	Square	
Length (Stepping Size)	270	μm
Width (Stepping Size)	270	μm
Thickness	100	μm
Top Pad Length	190	μm
Top Pad Width	190	μm
Top Pad Composition	Au (Gold)	
Back Metal (Backside)	None (Bare Silicon)	
Die (Stepping Size)	270	μm
Passivation Opening	60	μm
Active Size	160	μm
Active to PA Opening	25	μm

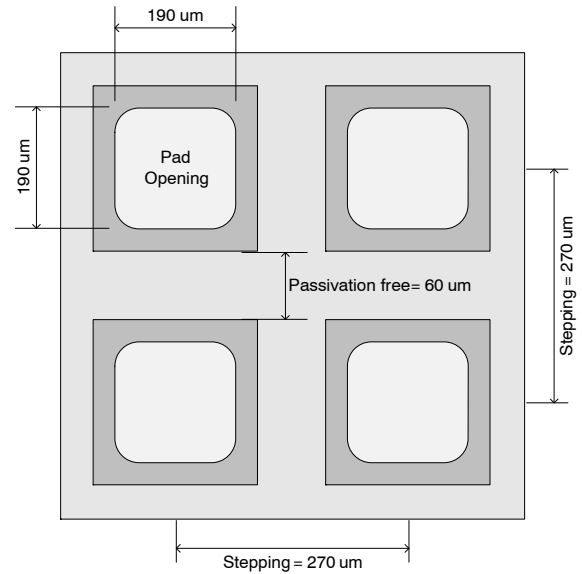


Figure 1. Wafer Array

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