

CM1773-5006YL

Product Preview

1-Channel ESD Protector



ON Semiconductor®

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Product Description

The CM1773-5006YL provides robust ESD protection for sensitive parts that may be subjected to electrostatic discharge (ESD). The tiny form factor means it can be used in very confined spaces. The electrical back-to-back diodes configuration provides ESD protection in cases where nodes with AC signals are present. This device is designed and characterized to safely dissipate ESD strikes of at least 5 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 Less Than 180 V
- ESD Protection Over 5 kV Contact Discharge per MIL-STD-883 International ESD Standard

Applications

- LED Lighting
- Modules
- Interface Circuits

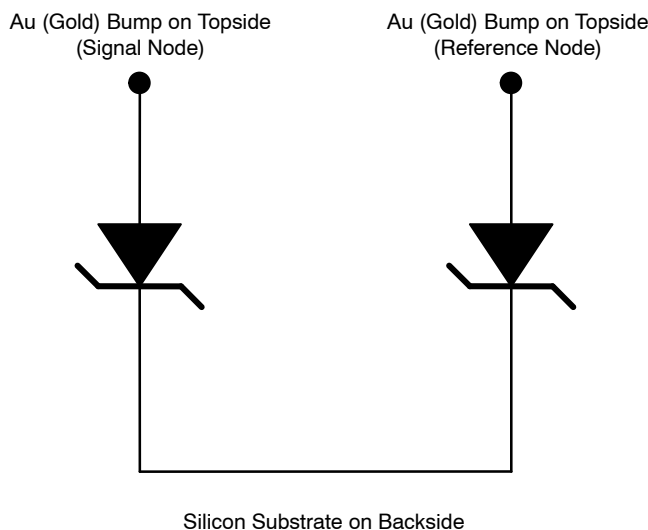


Figure 1. Electrical Schematic

ORDERING INFORMATION

Ordering Part Number	Topside Metal	Back Metal	BG Thickness	Inking?	Shipping Method
CM1773-5006YL	Gold (Au)	None (Silicon Substrate)	6 mils	No	Metal Ring

This document contains information on a product under development. ON Semiconductor reserves the right to change or discontinue this product without notice.

MAXIMUM RATINGS / OPERATING CONDITIONS

Parameter	Rating	Unit
Operating Temperature Range	–40 to +150	°C
Storage Temperature Range	–55 to +150	°C

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.

ELECTRICAL OPERATING CHARACTERISTICS

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
I_{LEAK}	Leakage Current	$V = +180\text{ V}$, $T_A = 25^\circ\text{C}$ $V = -180\text{ V}$, $T_A = 25^\circ\text{C}$			+1.0 –1.0	μA
V_{BD}	Breakdown Voltage on Signal Node	$T_A = 25^\circ\text{C}$; at $100\text{ }\mu\text{A}$ at $-100\text{ }\mu\text{A}$	+200 –280	+240 –240	+280 –200	V V
V_{ESD}	ESD Protection – Withstand Voltage Human Body Model MIL–STD–883 (Method 3015)	(Note 1)	5.0			kV

1. Per the standard, 3 positive and 3 negative strikes are applied, one second apart.

MECHANICAL DETAILS

MECHANICAL SPECIFICATIONS (Note 2)

Parameter	Condition	Unit
Composition	Silicon wafer, N+ doped	
Die Shape	Rectangular	
Die Length	480 ± 10	μm
Die Width	440 ± 10	μm
Thickness	6.0 ± 0.5	mils
Top Pad Length (a)	328 ± 5.0	μm
Top Pad Width (b)	100 ± 5.0	μm
Top Pad Spacing (d)	105 ± 5.0	μm
Top Pad Composition	Au (Gold)	
Top Pad Thickness	3 ± 1.5	μm
Back Metal (backside)	None (Silicon Substrate)	

2. Dimensions are typical values if tolerances are not specified.

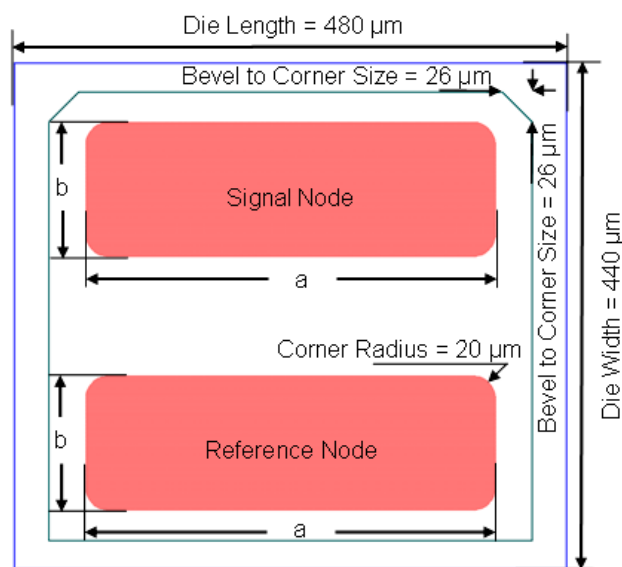



Figure 2. Sawn Die Diagram

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