



Features

- Compact die protects from ESD discharges
- Almost no conduction at signal amplitudes less than +85V.
- ESD protection to over $\pm 6\text{kV}$ contact discharge per MIL_STD_883 international ESD standard.
- ESD protection to over $\pm 3\text{kV}$ contact discharge per IEC61000-4-2 standard.

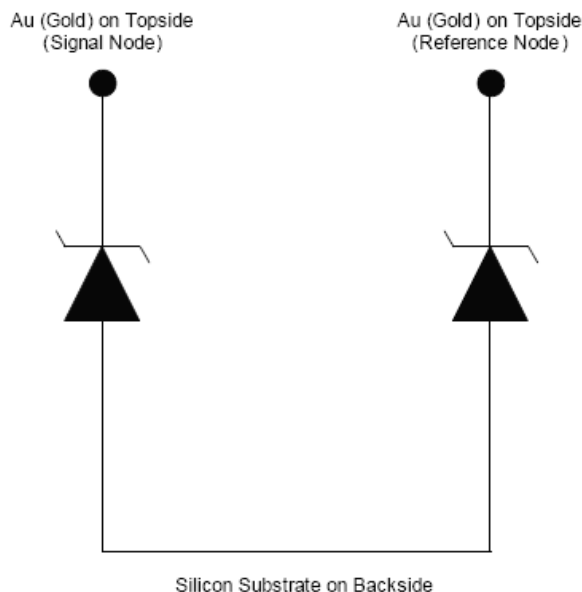
Applications

- LED lighting
- Modules
- Interface circuits

Product Description

The CM1771 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 Zener 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 $\pm 6\text{kV}$, according to the MIL-STD-883 (Method 3015) specification for Human Body Model (HBM) and of at least $\pm 3\text{kV}$, according to the IEC61000-4-2 contact discharge standard.

Electrical Schematic

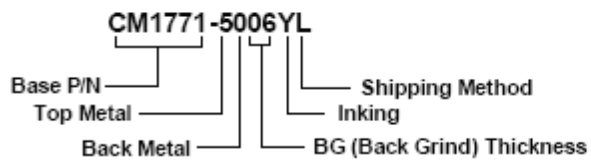


Ordering Information

PART NUMBERING INFORMATION

Ordering Part Number	Topside Metal	Back Metal	BG Thickness	Inking?	Shipping Method
CM1771-5006YL	Gold (Au)	None (Silicon Substrate)	6 mils	Y	Ship in Plastic Ring & Grip ring shipper (conditions D1)

Part Number Breakdown:



OPERATING CONDITIONS

PARAMETER	RATING	UNITS
Operating Temperature Range	-40 to +150	°C
Storage Temperature Range	-55 to +150	°C

Specifications

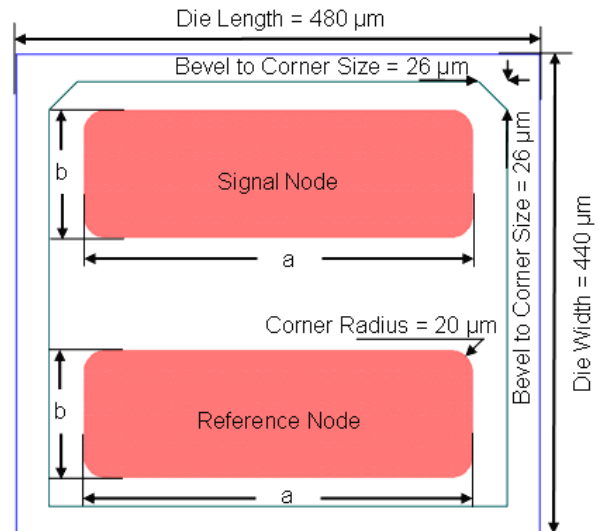
ELECTRICAL OPERATING CHARACTERISTICS						
SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT S
I_{LEAK}	Leakage Current	$V = +85V, T_A = 25^\circ C$			1.0	μA
V_{BD}	Breakdown Voltage on Signal Node Positive polarity on signal node Negative polarity on signal node	$T_A = 25^\circ C$; at 1.0mA (I_{CL+}) at -1.0mA (I_{CL-})	+90 -80	+100	+110 -60	V V
V_{ESD}	ESD Voltage Rating: Contact Discharge per Human Body Model, MIL-STD-883 (Method 3015) Contact Discharge per IEC61000-4-2 Standard	Note 1 and Note 2	± 6 ± 3			kV kV

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

Note 2: V_{ESD} is the ESD capability for the protection device only.

Mechanical Details

MECHANICAL SPECIFICATIONS (NOTE 1)		
Parameter	Description	Unit
Composition	Silicon wafer, P+ doped	
Die shape	Rectangular	
Length (Sawn)	480±10	µm
Width (Sawn)	440±10	µm
BG Thickness	6	mils
Top Pad Length (a)	356	µm
Top Pad Width (b)	117	µm
Top Pads Spacing	103	µm
Top Pad Composition	Au (Gold)	
Top Pad Thickness	3	µm
Back metal (underside)	None (Silicon Substrate)	



Sawn Die Diagram

Note 1: Dimensions are typical values if tolerances are not specified.

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