

# CM1771

## Features

- Compact die protects from ESD discharges
- Almost no conduction at signal amplitudes less than +85V.
- ESD protection to over ±6kV contact discharge per MIL\_STD\_883 international ESD standard.
- ESD protection to over ±3kV 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 ±6kV, according to the MIL-STD-883 (Method 3015) specification for Human Body Model (HBM) and of at least ±3kV, according to the IEC61000-4-2 contact discharge standard.



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# **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)	



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	ТҮР	МАХ	UNIT S	
I <sub>LEAK</sub>	Leakage Current	V= +85V, T <sub>A</sub> =25°C			1.0	μA	
V <sub>BD</sub>	Breakdown Voltage on Signal Node Positive polarity on signal node Negative polarity on signal node	T <sub>A</sub> =25°C; at 1.0mA (I <sub>CL+</sub> ) at -1.0mA (I <sub>CL-</sub> )	+90 -80	+100	+110 -60	V V	
V <sub>ESD</sub>	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	μ <b>m</b>			
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	μ <b>m</b>			
Back metal (underside)	None (Silicon Substrate)				



Sawn Die Diagram

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

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