OnChip ESD5959-12V

1-channel High Voltage ESD Protection TVS Zener Diode

Features
- Compact die protects from ESD discharges
- Small form-factor 5.9 x 5.9 mils sq
- Silicon chip thickness of 4 mils
- ESD protection to over 8kV contact discharge per MIL-STD-883
- This product is in full RoHS compliance

Applications
- Power LEDs
- High Brightness LEDs
- RF & Microwave Modules
- Multi-chip Modules
- Hybrid Microelectronics

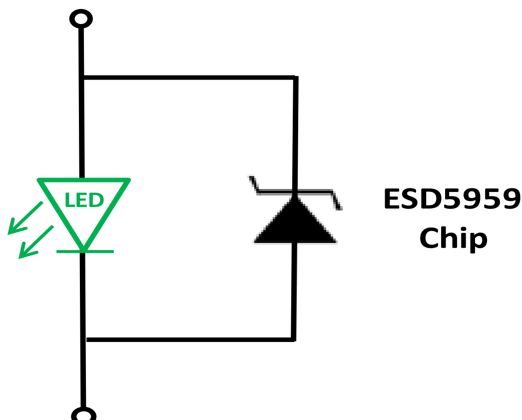
Product Description

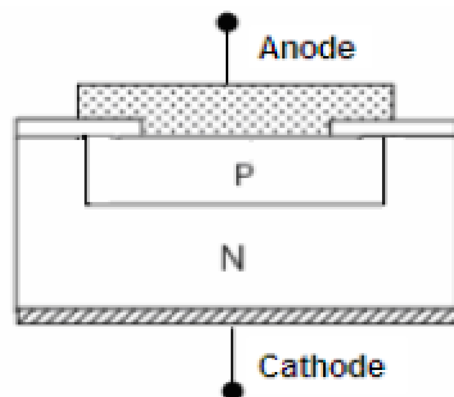
The ESD5959 provides a high level of protection for sensitive parts that may be subjected to electrostatic discharge (ESD). The tiny form-factor and single wire-bond feature makes this device ideal for applications that have very confined spaces and miniature packaging. This product is designed with a large cross-sectional area junction for conducting high transient currents. It provides superior electrical characteristics such as lower clamping voltage and literally no device degradation when compared to Multilayer Varistors (MLV). This device is designed and characterized to safely dissipate ESD strikes of over 8kV, when tested to the stringent MIL-STD-883 conditions.

Product will be shipped in wafer-form (diced or undiced). The silicon wafer diameter is 6”. Estimated net die per wafer is 500ku.

ELECTRICAL CHARACTERISTICS (T_A = 25°C)						
SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	V
V_Z	Zener Diode Voltage	I_Z = 5mA	12.5	-	15.5	V
I_R	Leakage Current	V_R = 10V	-	-	100	µA
V_f	Forward Voltage	I_f = 20mA	-	-	1.2	V
V_{ESD}	ESD Withstand Voltage	Human Body Model, MIL-STD-883, Method 3015	8			kV

ESD6959-12V Electrical Schematic & Structure:





Ordering Part No.					
Part Family	Signal Clamp	Chip Thickness	Ship Method	Front Metal Pad for Wire-bonding	Back Metal for Die Attach (Typical thickness)
ESD5959-	12V = 12Volts	4 = 4 mils	W = Shipped as unsawn full wafer	A = Aluminum (4um)	1= Gold (0.4um)
Die Size of 5.9 x 5.9 mils sq			B = Diced and shipped on mylar/tape		

Part Number Example: ESD5959-12V4BA1 is 5.9 x 5.9 mils sq ESD chip with 12V Clamp and 4 mils thickness; shipped as diced 6" wafers on mylar; the device as Aluminum top pads and Gold back-metal.

Wafer Array: Saw step size is 180um x 180um