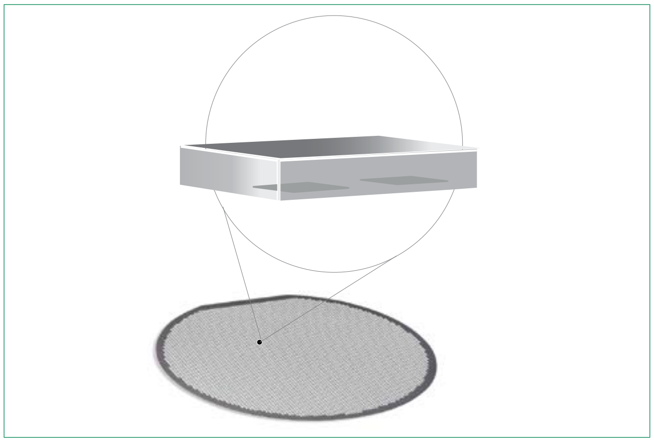
FC09B1606NL-0/FC09B1606NS-0

Flip Chip Zener Die, Bi-directional for ESD Protection



Description

The new FC09B1606Nx-0 is to be designed next to the LED together to provide improved bi-directional ESD protection, and it can safely absorb repetitive ESD strikes above the maximum contact level specified in IEC 61000-4-2 international standard level 4.

Features & Benefits

- Bi-directional
- Enhanced ESD performance
- ESD, IEC 61000-4-2 standard level 4: 8kV contact & 15kV air
- Saves bonding wire in assemble process
- AEC-Q qualified with package SOT-23; qualification report to be provided upon request.
- Optional backside metalization for optical appearance (Al/ SI)

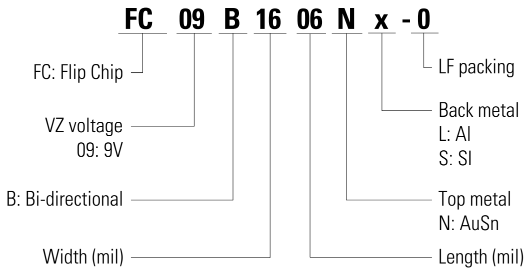
Absolute Maximum Ratings

Symbol	Parameter	Value	Units
T_J	Operating Temperature	150	°C

Applications

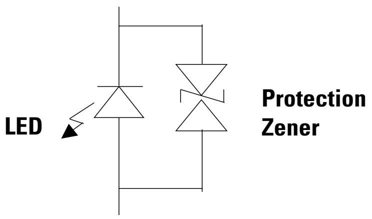
- Handset Flash LED ESD protection
- Auto LED headlight ESD
- Backlight LED in Display TV and Monitor
- Outdoor LED
- Ultraviolet UV light / Sterilamp
- Module embedded ESD die for I/Os

Part Numbering



Functional Diagram

Equivalent Circuit



Electrical Characteristics (T_{OP}=25 °C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Zener Voltage	V_Z1 (Forward)	Izf1=5 mA	7.0	-	10.5	V
	V_Z2 (Forward)	Izf2=10 µA	7.0	-	10.5	V
	V_Z1 (Reverse)	Izf1=5 mA	7.0	-	10.5	V
	V_Z2 (Reverse)	Izf2=10 µA	7.0	-	10.5	V
Leakage Current	Idf	V= 5 V	-	10	500	nA
	Idr		-	10	500	nA

Note: Parameter is guranteed by package characterization

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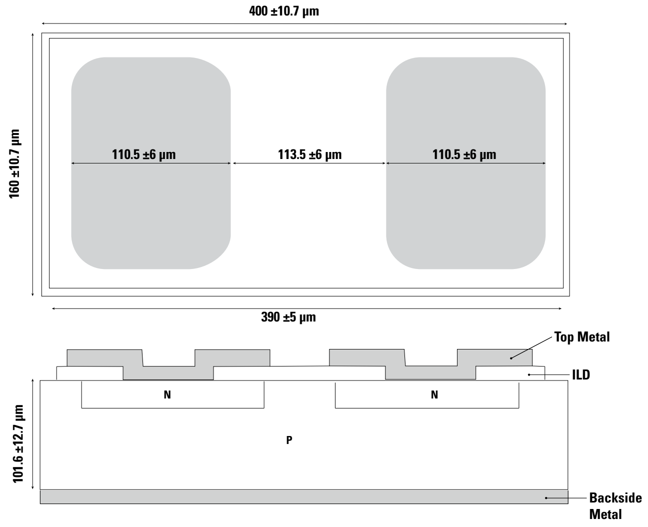
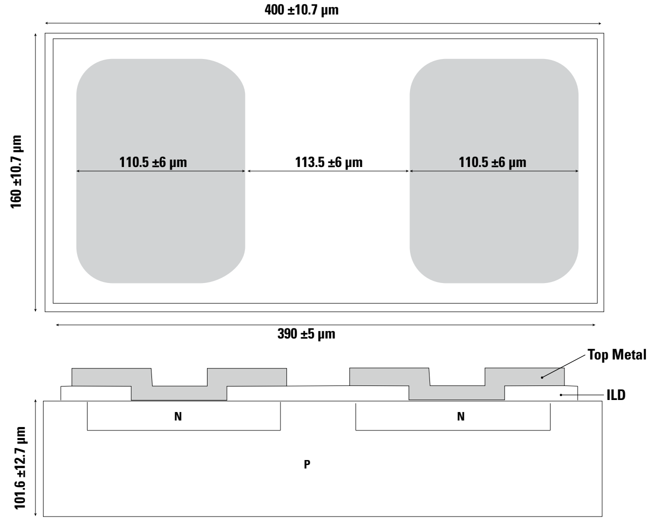
Physical Dimensions



FC09B1606NL-0	Characteristics	
Die size	400*160 ±10.7 µm	15.75*6.3 ± 0.42 mil
Pad size	110.5 ± 6.0 µm	4.35 ± 0.20 mil
Die thickness	101.6 ± 12.7 µm	4.00 ± 0.50 mil
Top metalization	SnAu 20 / 80 3 µm	SnAu 20 / 80 0.12 mil
Back metallization	Al	



FC09B1606NS-0	Characteristics	
Die size	400*160 ±10.7 µm	15.75*6.3 ± 0.42 mil
Pad size	110.5 ± 6.0 µm	4.35 ± 0.20 mil
Die thickness	101.6 ± 12.7 µm	4.00 ± 0.50 mil
Top metalization	SnAu 20 / 80 3 µm	SnAu 20 / 80 0.12 mil
Back material	SI	

Packing Specification

For detail packing size or specification, please contact Littelfuse.