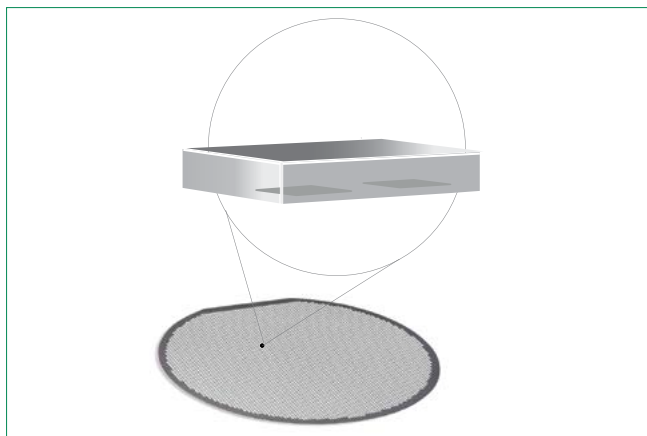


FC09B1606NL-0/FC09B1606NS-0

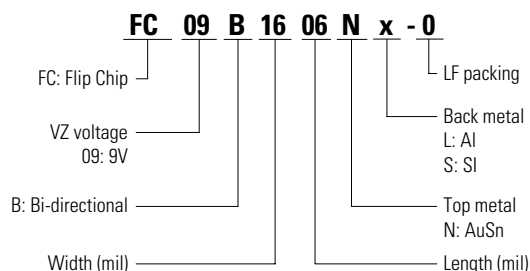
Flip Chip Zener Die, Bi-directional for ESD Protection



Absolute Maximum Ratings

Symbol	Parameter	Value	Units
T_j	Operating Temperature	150	°C

Part Numbering



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.

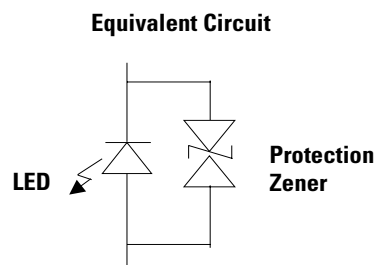
Features & Benefits

- 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)

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

Functional Diagram



Electrical Characteristics ($T_{OP}=25\text{ }^{\circ}\text{C}$)

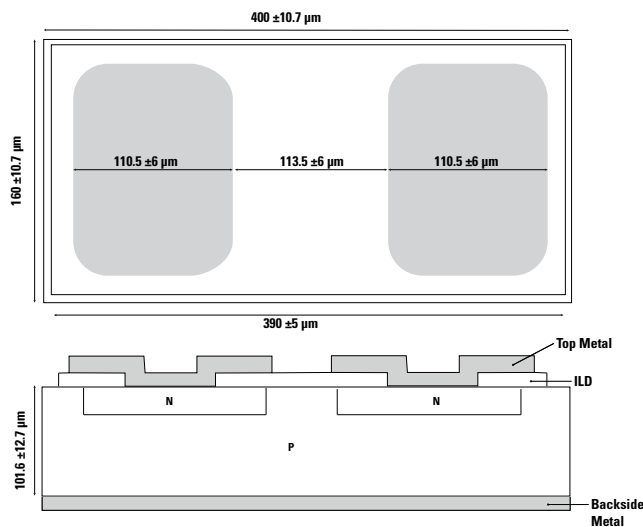
Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Zener Voltage	$V_z 1$ (Forward)	$I_{zf1}=5\text{ mA}$	7.0	-	10.5	V
	$V_z 2$ (Forward)	$I_{zf2}=10\text{ }\mu\text{A}$	7.0	-	10.5	V
	$V_z 1$ (Reverse)	$I_{zf1}=5\text{ mA}$	7.0	-	10.5	V
	$V_z 2$ (Reverse)	$I_{zf2}=10\text{ }\mu\text{A}$	7.0	-	10.5	V
Leakage Current	I_{df}	$V=5\text{ V}$	-	10	500	nA
	I_{dr}		-	10	500	nA

Note: Parameter is guaranteed by package characterization

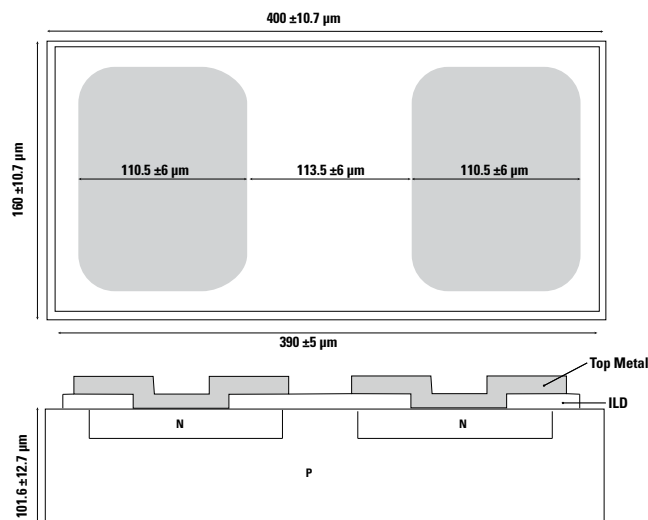
FC09B1606NL-0/FC09B1606NS-0

Flip Chip Zener Die, Bi-directional for ESD Protection

Physical Dimensions



FC09B1606NL-0	Characteristics	
Die size	$400 * 160 \pm 10.7 \mu\text{m}$	$15.75 * 6.3 \pm 0.42 \text{ mil}$
Pad size	$110.5 \pm 6.0 \mu\text{m}$	$4.35 \pm 0.20 \text{ mil}$
Die thickness	$101.6 \pm 12.7 \mu\text{m}$	$4.00 \pm 0.50 \text{ mil}$
Top metalization	SnAu 20 / 80 $3 \mu\text{m}$	SnAu 20 / 80 0.12 mil
Back metallization	Al	



FC09B1606NS-0	Characteristics	
Die size	$400 * 160 \pm 10.7 \mu\text{m}$	$15.75 * 6.3 \pm 0.42 \text{ mil}$
Pad size	$110.5 \pm 6.0 \mu\text{m}$	$4.35 \pm 0.20 \text{ mil}$
Die thickness	$101.6 \pm 12.7 \mu\text{m}$	$4.00 \pm 0.50 \text{ mil}$
Top metalization	SnAu 20 / 80 $3 \mu\text{m}$	SnAu 20 / 80 0.12 mil
Back material	SI	

Packing Specification

For detail packing size or specification, please contact Littelfuse.

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