



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



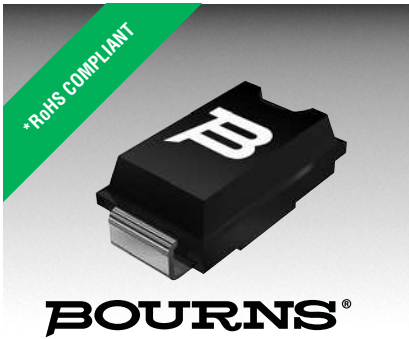
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Features

- Fast switching
- Automatic reset
- SMA package
- Suitable for industrial lighting environments
- RoHS compliant*

Applications

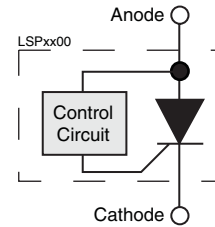
- LED streetlights
- LCD backlighting
- Display lighting
- Intrinsically safe lighting

LSPxxxxAJR Series LED Shunt Protector

General Information

Bourns® LSP Series protectors are electronic shunts that provide a current bypass when an LED element in an LED series string fails open circuit. This ensures the remaining string of LEDs will continue to function. There are many cases where high reliability of the LED lighting must be maintained, such as LCD backlighting, transport lighting, avionics, intrinsically safe and low maintenance lighting.

The LSPxxxAJR Series is available in surface mount package DO-214AC (SMA) size format.



Absolute Maximum Ratings (@ T_A = 25 °C Unless Otherwise Noted)

| Rating | | Symbol | Value | Unit |
|------------------------------------|---------|------------------|-------------|------|
| Repetitive peak off-state voltage | LSP0600 | V _{DRM} | 6 | V |
| | LSP0900 | | 9 | |
| | LSP1300 | | 13 | |
| | LSP1800 | | 18 | |
| Average on-state current (Note 1) | | I _T | 1 | A |
| Operating junction temperature | | T _J | -40 to +150 | °C |
| Storage temperature | | T _S | -65 to +150 | °C |
| Lead temperature, soldering (10 s) | | | 260 | °C |

Notes:

1. Using 75 mm x 75 mm 4-Layer PCB (EIA/JESD51-7).

Electrical Characteristics (@ T_A = 25 °C Unless Otherwise Noted)

| Parameter | Test Conditions | Min. | Nom. | Max. | Unit | |
|--|--|------|---------|------|------|---|
| I _{DRM} Repetitive peak off-state current | V _D = V _{DRM} | | | 10 | μA | |
| V _(BO) Breakover voltage | dv/dt = 750 V/ms, R _{SOURCE} = 300 | | LSP0600 | 6 | 16 | V |
| | | | LSP0900 | 9 | 18 | |
| | | | LSP1300 | 13 | 26 | |
| | | | LSP1800 | 18 | 33 | |
| I _H Holding current | I _T = 1 A, di/dt = 30 mA/ms | 5 | 30 | | mA | |
| I _{BO} Breakover current | di/dt = 0.8 A/ms | | | 75 | mA | |
| V _T On-state voltage | I _T = 1 A | | | 1.2 | V | |

Thermal Characteristics (@ T_A = 25 °C Unless Otherwise Noted)

| Parameter | Test Conditions | Min. | Nom. | Max. | Unit |
|---|--|------|------|------|------|
| Junction to free air thermal resistance | EIA/JESD51-3 PCB, I _T = 350 mA, T _A = 25 °C | | 230 | | °C/W |
| Junction to free air thermal resistance | EIA/JESD51-7, 75 mm x 75 mm 4-Layer PCB, I _T = 1.0 A, T _A = 25 °C | | 90 | | °C/W |

JANUARY 2012 – REVISED FEBRUARY 2012

*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

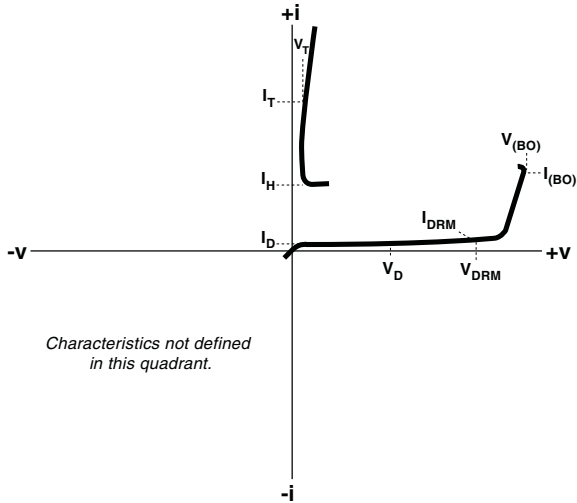
Specifications are subject to change without notice.

Customers should verify actual device performance in their specific applications.

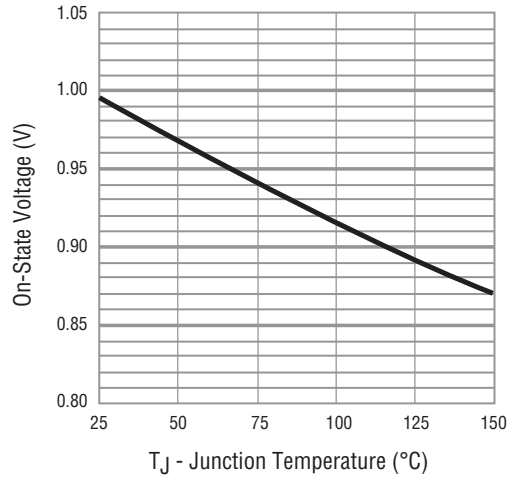
LSPxxxxAJR Series LED Shunt Protector



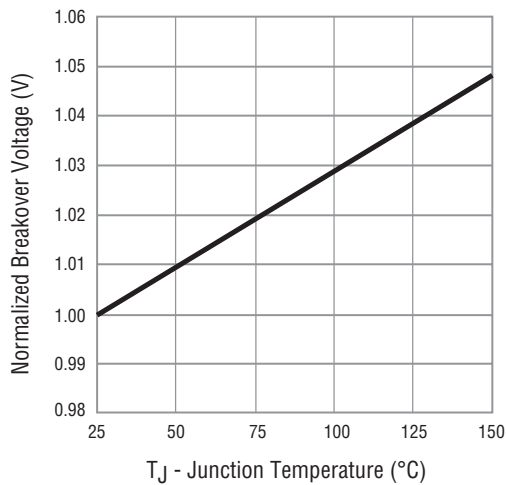
V-I Characteristic



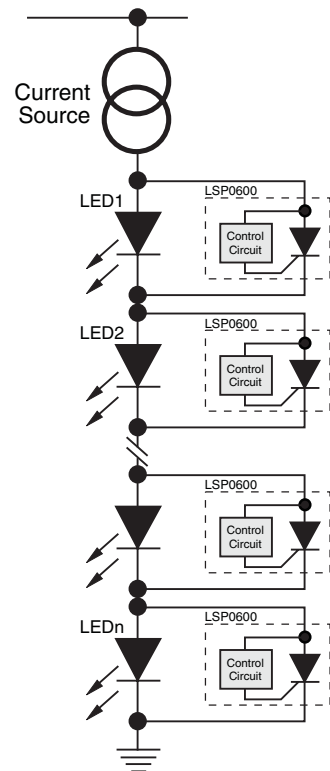
On-state Voltage vs. Junction Temperature



Normalized Breakover Voltage vs. Junction Temperature



Typical Application



Note: The interaction between the Bourns® LSP device and the power supply for the LED series string dictates the power supply architecture. Proper care must be taken in the design of the power supply architecture to ensure that the Bourns® LSP devices operate as intended and the design maintains integrity.

LSPxxxxAJR Series LED Shunt Protector



Product Specifications



MDXXCCE

Unit Epoxy molded SMA DO-214AC package
 Mold Material UL94V-0
 Terminations 100 % matte tin-plated over copper alloy
 Unit Weight 102 mg.

Packaging Specifications

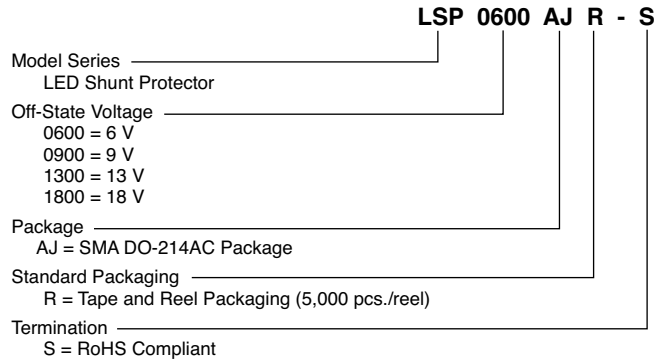
Standard EIA-481-1
 Tape Width 12 mm (.472 in.)
 Reel Diameter 330 mm (12.99 in.)
 Part Alignment Cathode bar adjacent to sprocket hole
 Quantity per Reel 5,000 pieces

Typical Part Marking

Top Side Marking

LSP0600AJR-S LSP060
 LSP0900AJR-S LSP090
 LSP1300AJR-S LSP130
 LSP1800AJR-S LSP180

How to Order



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