



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!



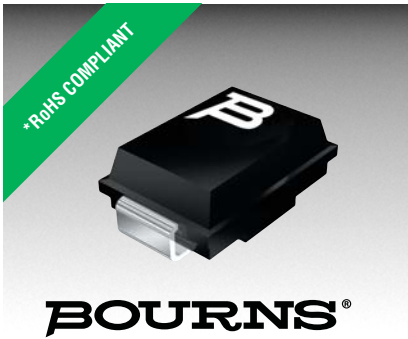
Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





Features

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

Applications

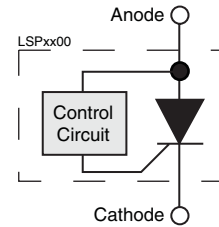
- LED streetlights
- LCD backlighting
- Display lighting
- Intrinsically safe lighting

LSPxxxxBJR 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 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 LSP Series is available in surface mount package DO-214AA (SMB) 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 2011 - REVISED FEBRUARY 2012

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

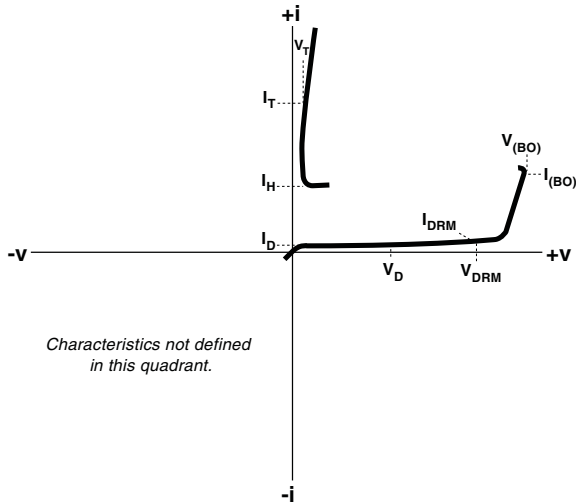
Specifications are subject to change without notice.

Customers should verify actual device performance in their specific applications.

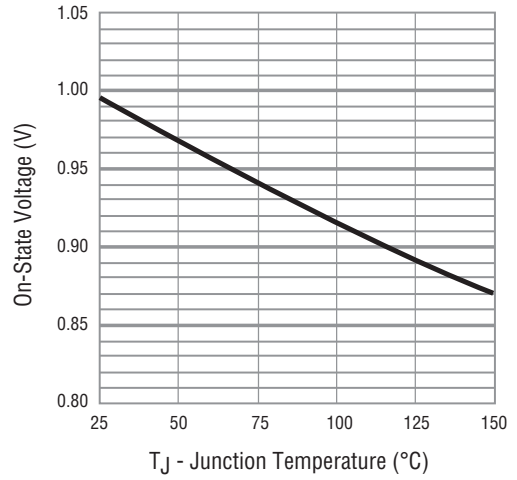
LSPxxxxBJR Series LED Shunt Protector



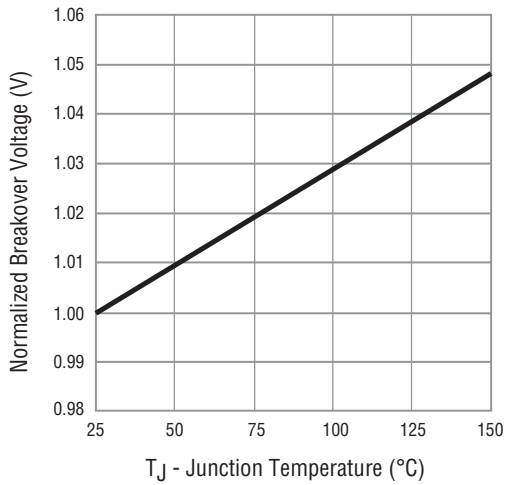
V-I Characteristic



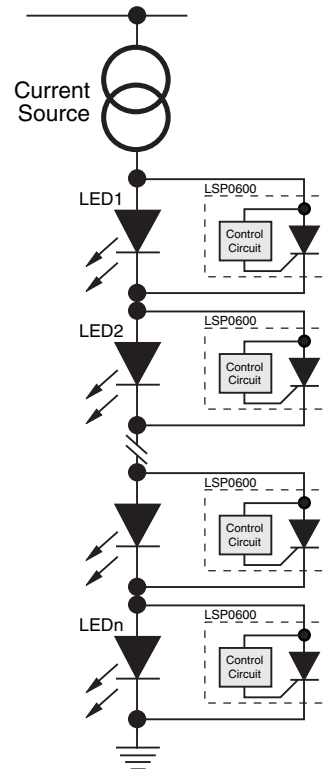
On-state Voltage vs. Junction Temperature



Normalized Breakover Voltage vs. Junction Temperature



Typical Application

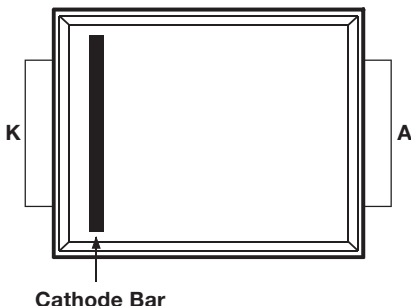


Note: The interaction between the Bourns® LSP device and the power supply for the LED string dictates the power supply architecture. Proper care must be taken in the design of the power supply architecture to ensure that the Bourns® LSP devices operate as intended and the design maintains integrity.

LSPxxxxBJR Series LED Shunt Protector

BOURNS®

Product Specifications



Unit Epoxy molded SMB D0-214AA 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 3,000 pieces

Typical Part Marking

	Top Side Marking
LSP0600BJR-S	LSP060
LSP0900BJR-S	LSP090
LSP1300BJR-S	LSP130
LSP1800BJR-S	LSP180

How to Order

	LSP 0600 BJR - S
Model Series _____	LED Shunt Protector
Off-State Voltage _____	0600 = 6 V 0900 = 9 V 1300 = 13 V 1800 = 18 V
Package _____	BJ = SMB DO-214AA Package
Standard Packaging _____	R = Tape and Reel Packaging (3,000 pcs./reel)
Termination _____	S = RoHS Compliant

BOURNS®

Asia-Pacific: Tel: +886-2 2562-4117 • Fax: +886-2 2562-4116

Europe: Tel: +41-41 768 5555 • Fax: +41-41 768 5510

The Americas: Tel: +1-951 781-5500 • Fax: +1-951 781-5700

www.bourns.com