

## Product Overview

Mil spec quality Schottky barrier devices are available in economical SOT23 plastic packages. Priced for high volume commercial applications, these devices provide state-of-the-art electrical performance. These devices are ideal for use as detectors, mixers, in up/down converters or in sampling phase detectors. The LXS series of diodes are the RoHS compliant versions of the LSS series. The LXS series supersedes the LSS version.

### Key Features

- Standard SOT-23 package outline
- Surface mount design
- Wide selecting of values and configurations
- Available on tape and reel for automated pick and place assembly
- Excellent conversion loss
- RoHS compliant<sup>1</sup>

### Applications

- Mixers
- Detectors
- Limiters
- Sampling phase detectors
- Up/Down converters

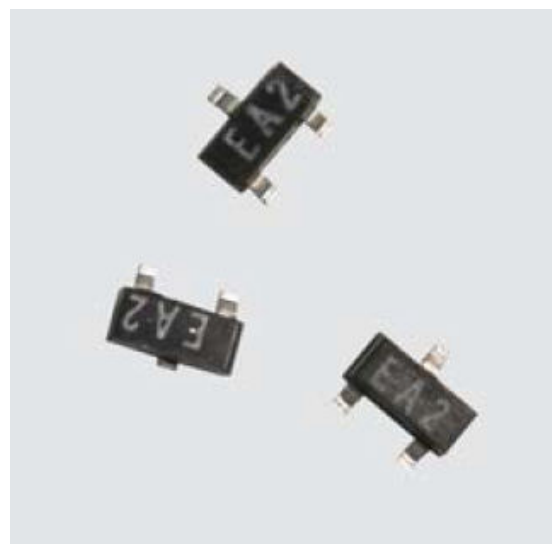
### Performance Overview

Parameter	Conditions	Values	Units
$V_B$	$I_R = 10 \mu A$	3.0, 20, 70	V
$V_B$	$I_R = 100 \mu A$	8.0	V
$V_F$	$I_F = 1 \text{ mA}$	250–430	mV
$C_T$ <sup>1</sup>	at 0V	0.30, 1.0, 1.4, 2.0	pF
$R_D$	$I_F = 5 \text{ mA}$	10, 14, 15, 32	$\Omega$

### Note:

1. Capacitance is measured at  $f = 1 \text{ MHz}$ .

### Package Styles



## Table of Contents

Product Overview.....	1
1. Electrical Specifications.....	3
1.1. Typical Electrical Performance.....	3
1.2. Absolute Maximum Ratings.....	3
2. Outline Drawings.....	4
2.1. Configurations.....	5
3. Ordering Information.....	6
4. Revision History.....	7
Microchip Information.....	8
The Microchip Website.....	8
Product Change Notification Service.....	8
Customer Support.....	8
Microchip Devices Code Protection Feature.....	8
Legal Notice.....	8
Trademarks.....	9
Quality Management System.....	10
Worldwide Sales and Service.....	11

# 1. Electrical Specifications

## 1.1 Typical Electrical Performance

Table 1-1. Typical Electrical Performance T = 25 °C

PN - Configuration		V <sub>B</sub>	V <sub>B</sub>	I <sub>R</sub>	at V <sub>R</sub>	V <sub>F</sub>	C <sub>T</sub> <sup>1</sup>	R <sub>D</sub>
		at I <sub>R</sub> = 10 μA	at I <sub>R</sub> = 100 μA	at V <sub>R</sub>		at I <sub>F</sub> = 1 mA	at 0V	at I <sub>F</sub> 5 mA
		(V)	(V)	(nA)	(V)	(mV)	(pF)	(Ω)
		Min	Min	Max			Max	Typ
LXS101	23-0 23-1 23-2 23-3 23-4 23-5		8.0	100	at 1.0V	250 - 350	1.0	10
LXS201	23-0 23-2	3.0		400	at 1.0V	250 - 350	0.30	14
LXS301	23-0 23-1 23-2 23-3 23-4	20		200	at 15.0V	300 - 430	1.4	15
LXS701	23-0	70		200	at 50.0V	300 - 430	2.0	32

**Note:**

- Capacitance is measured at f = 1 MHz.

## 1.2 Absolute Maximum Ratings

The following table shows the absolute maximum ratings at 25 °C unless otherwise specified.

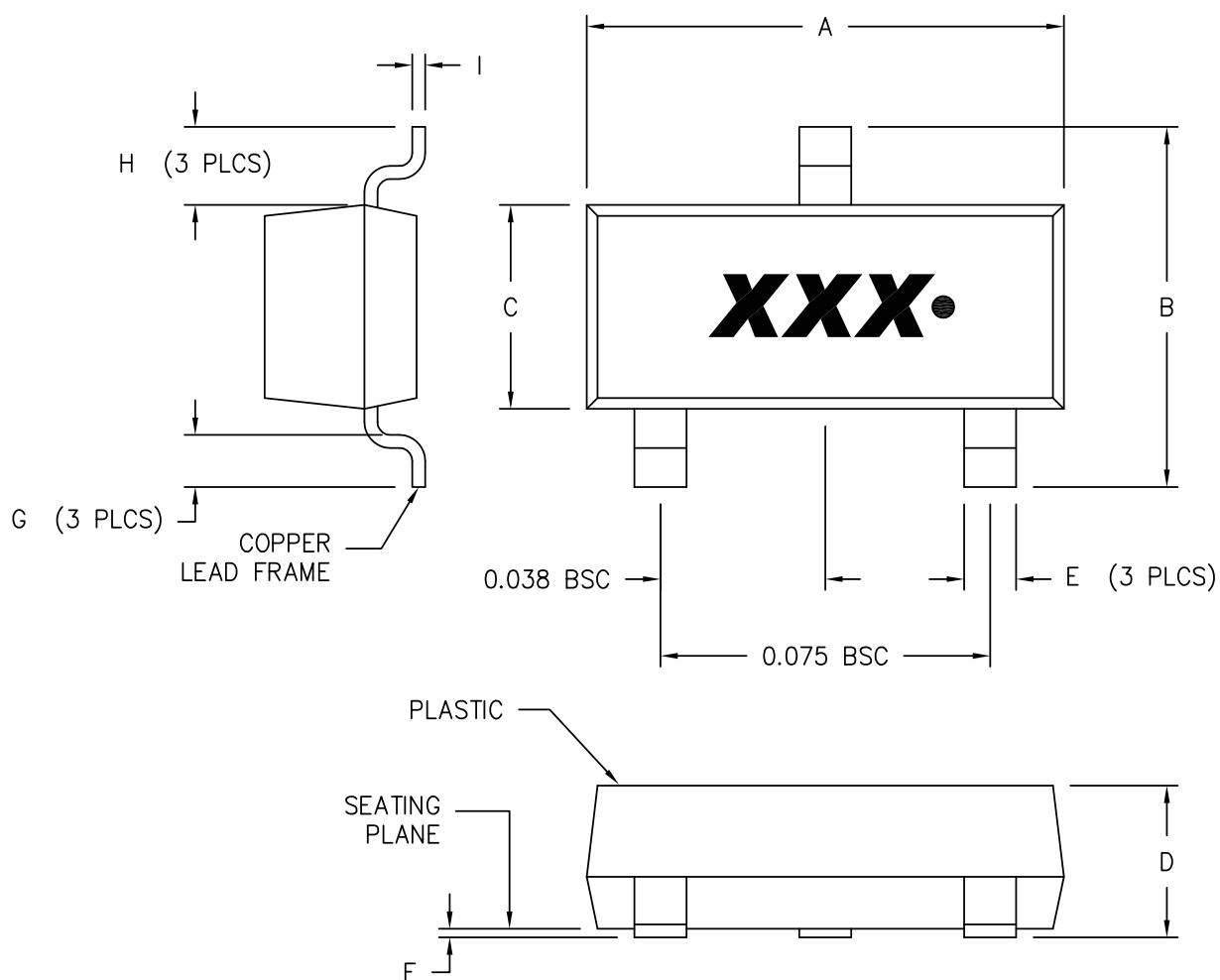
Rating	Symbol	Value	Unit
Power dissipation (de-rated linearly to 0 at T <sub>J</sub> (max))	P <sub>D</sub>	250	mW
Storage temperature	T <sub>STG</sub>	-55 to +125	°C
Operating temperature	T <sub>OP</sub>	-55 to +125	°C
Forward current (1 μs pulse)	I <sub>F</sub>	1.0	A



ESD Sensitive Device

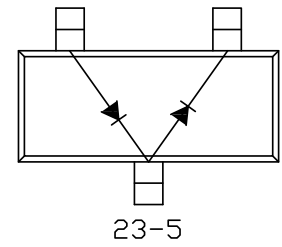
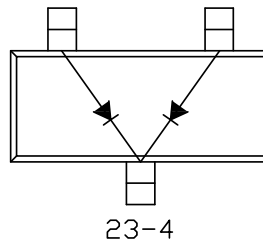
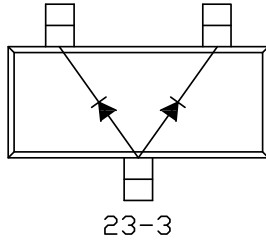
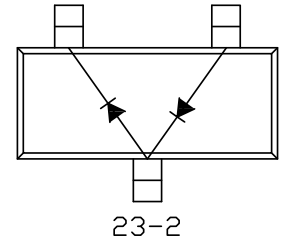
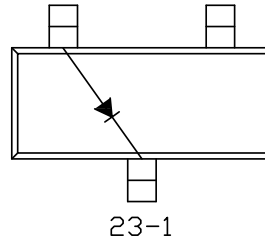
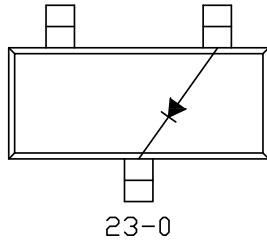
## 2. Outline Drawings

Figure 2-1. Package Outline



DIM	INCHES			MM		
	MIN	TYP	MAX	MIN	TYP	MAX
A	0.110	-	0.118	2.794	-	2.997
B	0.083	-	0.098	2.108	-	2.489
C	0.047	-	0.055	1.194	-	1.397
D	0.035	-	0.046	0.889	-	1.168
E	0.012	-	0.022	0.305	-	0.559
F	0.002	-	0.006	0.051	-	0.152
G	0.016	-	0.023	0.406	-	0.584
H	0.018	-	0.025	0.457	-	0.635
I	0.003	-	0.008	0.076	-	0.203

## 2.1 Configurations



**Note:**

1. For specific material type (P or N) and other configurations, consult factory.

### 3. Ordering Information

When ordering, specify configuration (see configuration section for internal wiring diagrams). For additional information, contact your Microchip sales representative.

Part Number	Package-Configuration
LXS101	23-0
	23-1
	23-2
	23-3
	23-4
	23-5
LXS201	23-0
	23-2
LXS301	23-0
	23-1
	23-2
	23-3
	23-4
LXS701	23-0

**Note:**

1. Add T/R at the end for tape and reel, for example LXS101-23-0/TR.

## 4. Revision History

The revision history describes the changes that were implemented in the document. The changes are listed by revision, starting with the most current publication.

Revision	Date	Description
A	07/2023	Document reformatted to Microchip template.

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