# LXP1000 – LXP1011

**SURFACE MOUNT**
**SOT23 PKG PIN Diodes**

**RoHS Compliant** e3

## DESCRIPTION

The LXP series of SOT-23 PIN diodes offers the circuit designer a higher level of quality in a commercially priced package. Choose from LXP1000, LXP1004, and LXP1008 for switching applications, LXP1002, LXP1005, LXP1010 and LXP1011 for low distortion attenuation from VHF through 1.5 GHz. They are available in a host of configurations (see configuration table for internal wiring.) The LXP series of PIN diodes supersedes the LSP series. The LXP products are supplied with a RoHS compliant matte tin finish. The LSP series was supplied with a lead/tin finish.

Other configurations are available - consult factory for details. When ordering specify configuration (example: LXP1004-23-4 is a common cathode dual pin).

## KEY FEATURES

- Low Cost
- High Performance
- Surface Mount
- Available on Tape
- Multiple Configurations to Choose From
- RoHS Compliant[1]

## APPLICATIONS

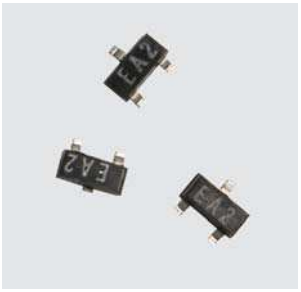
The LXP1000 series of SOT-23 PIN diodes are ideal for low cost RF switching and attenuator applications through 1.5 GHz. The can be tuned for narrow band control for frequencies through 5 GHz. They are available as Single Diode, Series "T", and Common Pair configurations. The SOT-23 products can be supplied in bulk or on 'tape & reel' for automated pick and place assembly. Tape & Reeled parts are supplied in 8mm conductive polycarbonate tape.

## APPLICATIONS/BENEFITS

- Low Current Switching
- Low Distortion Attenuation
- Ultra Low Distortion Switching
- High Quality / Economical Price.

## ABSOLUTE MAXIMUM RATINGS AT 25º C
(UNLESS OTHERWISE SPECIFIED)

| Rating | Symbol | Value | Unit |
|---|---|---|---|
| Maximum Leakage Current @80% of Minimum Rated $V_B$ | $I_R$ | 50 | nA |
| Storage Temperature | $T_{STG}$ | -65 to +125 | ºC |
| Operating Temperature | $T_{OP}$ | -55 to +125 | ºC |
| Power Dissipation | $P_D$ | 250 | mW |
| Forward Current (1uS Pusle) | $I_F$ | 1 | A |



**IMPORTANT:** For the most current data, consult our website: ***www.MICROSEMI.com***

These devices are ESD sensitive and must be handled using ESD precautions.

[1] The LXP1000 Series of products are supplied with a RoHS complaint Gold finish.



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## ELECTRICAL PARAMETERS @ 25°C (Unless Otherwise Specified)

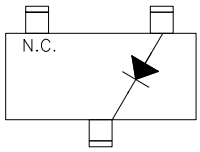
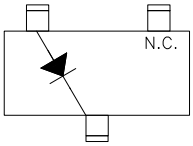
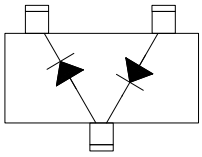
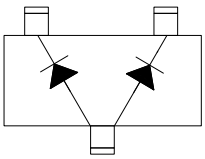
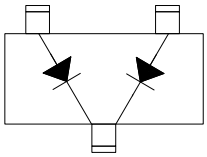
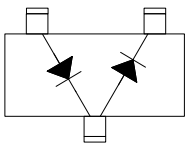
| Model Number | $V_b$(V) $I_R$=10µA (Min) | $C_T$(pF)[1] @$V_R$ (Typ) | $V_R$ (V) | $R_s$(Ω)[2] @$I_F$ (Max) | $I_F$(mA) | $T_L$(nS)[3] . (Typ) | Application |
|---|---|---|---|---|---|---|---|
| LXP1000 | 35 | 0.28 | 5 | 2.5 | 5 | 40 | Switch |
| LXP1002 | 100 | 0.32 | 50 | 4.0 | 100 | 1500 | Attenuator |
| LXP1004 | 35 | 0.75 | 20 | 0.6 | 10 | 70 | Switch |
| LXP1005 | 100 | 0.40 | 50 | 6.5 | 5 | 2000 | Attenuator |
| LXP1008 | 50 | 0.30 | 20 | 1.5 | 10 | 200 | Switch |
| LXP1010 | 100 | 0.35 | 50 | 3.0 | 10 | 1000 | Attenuator |
| LXP1011 | 200 | 0.35 | 50 | 8.0 | 20 | 2000 | Attenuator |

Notes
1. Capacitance ($C_T$) is measured at f = 1 MHz
2. Series Resistance ($R_S$) is measured at f = 100 MHz
3. Carrier Lifetime ($T_L$) is measured at $I_F$ = 10 mA, $I_R$ = 6 mA

## TYPICAL CONFIGURATIONS

| Model Number | 23-0 | 23 – 1 | 23 - 2 | 23 - 3 | 23 - 4 | 23 - 5 |
|---|---|---|---|---|---|---|
| LXP1000 | ● | ● | ● | ● | ● | |
| LXP1002 | ● | ● | ● | ● | ● | |
| LXP1004 | ● | | | | ● | |
| LXP1005 | ● | | | | | |
| LXP1008 | ● | | ● | | ● | |
| LXP1010 | ● | | | | | ● |
| LXP1011 | ● | | | | | |

## PINOUT

| 2 3 - 0 | 2 3 - 1 | 2 3 - 2 |
|---|---|---|
|   |   |  |
| **2 3 - 3** | **2 3 - 4** | **2 3 - 5** |
|  |  |  |





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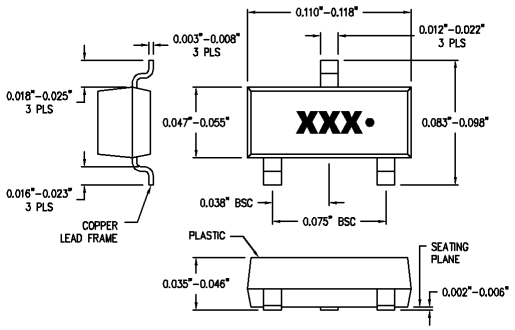
## SOT23 (23) STYLE PACKAGE




| CROSS REFERENCE | | | | |
|---|---|---|---|---|
| | MSC P/N | INDUSTRY EQUIVALENT | | |
| | **LXP1000 – 23-0** | HSMP3890 | | |
| | **LXP1000 – 23-1** | HSMP3891 | | |
| | **LXP1000 – 23-2** | HSMP3892 | | |
| | **LXP1000 – 23-3** | HSMP3893 | | |
| | **LXP1000 – 23-4** | HSMP3894 | | |
| | **LXP1002 – 23-0** | HSMP3810 | MA4P274 | |
| | **LXP1002 – 23-1** | HSMP3811 | | |
| | **LXP1002 – 23-2** | HSMP3812 | MA4P274ST | |
| | **LXP1002 – 23-4** | HSMP3814 | MA4P274CK | |
| | **LXP1004 – 23-0** | HSMP3820 | | |
| | **LXP1004 – 23-1** | HSMP3821 | | |
| | **LXP1004 – 23-2** | HSMP3822 | | |
| | **LXP1004 – 23-3** | HSMP3823 | | |
| | **LXP1004 – 23-4** | HSMP3824 | | |
| | **LXP1005 – 23-0** | HSMP3880 | | |
| | **LXP1008 – 23-2** | | MA4P789ST | SMP1310-12 |
| | **LXP1008 – 23-4** | | MA4P789CK | SMP1310-13 |
| | **LXP1010 – 23-0** | | MA4P274 | |
| | **LXP1011 – 23-0** | | MA4CP103A | SMP1304-01 |





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