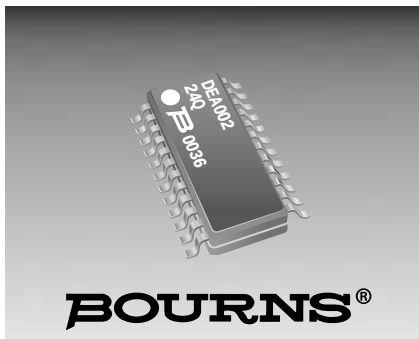




Features

- Supports 15 KV IEC 61000-4-2 ESD equipment specification†
- Single device protects as many as 20 lines on exposed pins, communications ports
- Incorporates 40 bi-directional PN junction diodes
- Small form factor replaces 20 SOT23 packages

Applications

- Parallel printer ports, communication ports
- Hot-swappable designs
- IC protection

Thin Film on Silicon 2DEA Integrated ESD Protection Diode Array

General Information

The Model 2DEA Series is well-suited for space constrained designs where the requirements of international ESD standard specification IEC 61000-4-2 must be met.

These highly integrated PN junction diode arrays are especially effective for use in PC notebooks and motherboards, engineering workstations and portable battery-powered devices such as PDAs and cellular phones.

Space savings, as compared to popular BAV99 SOT23 based implementations, can yield a 75 % reduction in utilized board area. In addition, significant assembly cost reductions and manufacturing integrity improvements can be realized.

Two package options are available. Model 2DEA consists of 20 bi-directional diode pairs in a miniature 24-pin JEDEC QSOP package. The 2DEB consists of 17 bi-directional diode pairs in a traditional wide-body SOIC JEDEC package.

Electrical Specifications

Supply Voltage (VDD - VSS)
.....-0.3 V to +12 V

Voltage @ Any Channel (Vin)
.....-0.3 V to (VDD+0.5)
VSS = GND

Channel Clamp Current (Ic)
(Continuous).....±15 mA max.

Forward Voltage (Vf)
@ If = 1 mA.....0.8 V typ., 0.9 V max.
@ If = 12 mA.....1.5 V max.

Leakage Current
@ VSS < Vin < VDD = 12 V.....0.1 µA typ.
@ VSS < Vin < VDD = 12 V.....10 µA max.

Diode Capacitance.....5 pF max.

Diode Power Rating.....20 mW/diode

Power Dissipation @ 25 °C.....100 mW

ESD Protection†.....15 KV per IEC 61000-4-2 human body test method

Environmental Specifications

Operating Temperature.....-55 °C to +125 °C

Storage Temp. Range.....-65 °C to +150 °C

Physical Specifications

Standard Packages and Pin Counts

QSOP.....24 Pin

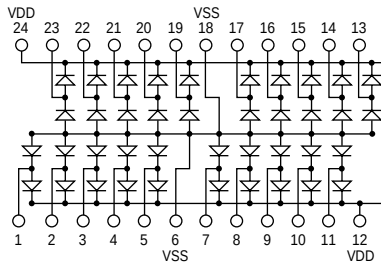
Wide-Body SOIC.....20 Pin

Dispensing

QSOP3,500 pcs./13 " reel
56 pcs./tube

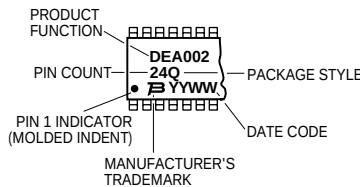
Wide-Body SOIC.....3,500 pcs./13 " reel
37 pcs./tube

Package Schematic



Typical Part Marking

Represents total content. Layout may vary.



How To Order

2 DEA - 2 - Q 24 R

Product Class _____
Thin-Film-on-Silicon

Product Function _____
ESD Protection Diode Array
DEA = 20 Lines
DEB = 17 Lines

Standard _____

Standard Package Style _____
Q = QSOP
W = Wide-Body SOIC

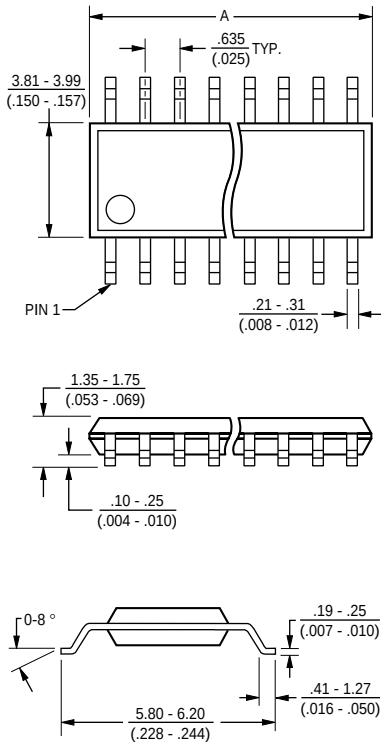
Pin Count _____
Q = 24 W = 20

Dispensing _____
R = Reel T = Tube

Standard Part Numbers

Part Number (Tape & Reel)	Part Number (Tubes)
2DEA-2-Q24R	2DEA-2-Q24T
2DEB-2-W20R	2DEB-2-W20T

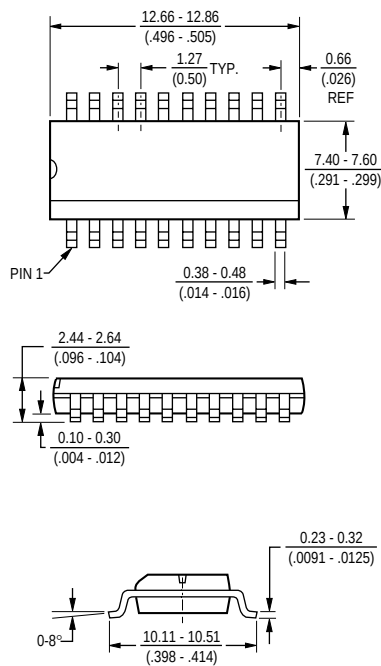
† Note: IEC 61000-4-2 ESD test performance is measured at the systems level and system designs, enclosure shielding and other conventional ESD control measures usually influence the results of these tests. Testing on the component level serves as an indicator that the system passes a specific compliance step, but does not ensure that the system passes at that level. The Model 2DEA/DEB device, therefore, can support successful implementation of the IEC 61000-4-2 system level ESD standard.

**QSOP
Package Dimensions**

Model	A
2QSP24	8.56 - 8.74 (.337 - .344)

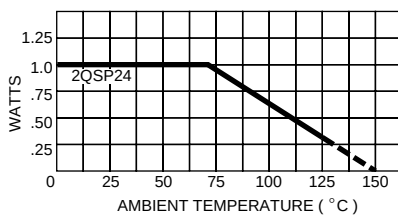
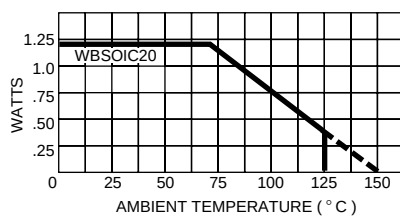
Governing dimensions are in mm. Dimensions in parentheses are in inches and are approximate.

JEDEC Reference Number MO-137.

**Wide-Body SOIC
Package Dimensions**

Governing dimensions are in mm. Dimensions in parentheses are in inches and are approximate.

JEDEC Reference Number MS-013.

**QSOP Package Power
Temperature Derating Curve****Wide-Body SOIC Package Power
Temperature Derating Curve**

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