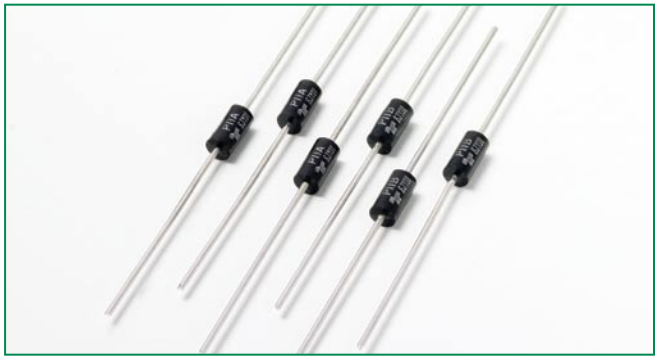
# RoHS DO-15 Series (A/B Rated) SIDACtor® Device



## Description

This DO-15 plastic package provides a through-hole version of the SIDACtor® device. This axial leaded device is ideal for Customer Premises Equipment (CPE) such as telephones, answering machines, modems, fax interfaces. The DO-15 package series can also be used for overvoltage protection for applications such as T1/E1/J1 trunk cards when the appropriate overcurrent protection is included.

## Features

- RoHS compliant
- Bidirectional transient voltage protection
- Axial lead through-hole component
- Teccor brand SIDACtor technology

## Agency Approvals

| Agency | Agency File Number |
|---|---|
| ® | E133083 |

## Protection solution to meet

- YD/T 950
- YD/T 993
- YD/T 1082
- GR 1089 Intra-building
- IEC 61000-4-5
- ITU K.20/21 Basic Level
- TIA-968-A

## Electrical Characteristics

| Part Number "_" = A or B | Marking "_" = A or B | $V_{DRM}$ @$I_{DRM}$=5µA | $V_S$ @100V/µs | $I_H$ | $I_S$ | $I_T$ | $V_T$ @$I_T$=1 amp | Capacitance @1MHz, 2V bias | |
|---|---|---|---|---|---|---|---|---|---|
| | | Volts | Volts | mAmps | mAmps | Amps | Volts | pF | |
| | | Min | Max | Min | Max | Max | Max | Min | Max |
| P1100G_LRP | P11_ | 90 | 130 | 150 | 800 | 1.0 | 5 | 30 | 60 |
| P1300G_LRP | P13_ | 120 | 160 | 150 | 800 | 1.0 | 5 | 25 | 40 |
| P1500G_LRP | P15_ | 140 | 180 | 150 | 800 | 1.0 | 5 | 25 | 40 |
| P1800G_LRP | P18_ | 170 | 220 | 150 | 800 | 1.0 | 5 | 25 | 40 |
| P2300G_LRP | P23_ | 190 | 260 | 150 | 800 | 1.0 | 5 | 25 | 30 |
| P2600G_LRP | P26_ | 220 | 300 | 150 | 800 | 1.0 | 5 | 25 | 30 |
| P3100G_LRP | P31_ | 275 | 350 | 150 | 800 | 1.0 | 5 | 20 | 30 |
| P3500G_LRP | P35_ | 320 | 400 | 150 | 800 | 1.0 | 5 | 20 | 30 |

- All measurements are made at an ambient temperature of 25°C.
- Listed SIDACtor devices are bidirectional. All electrical parameters and surge ratings apply to forward and reverse polarities.

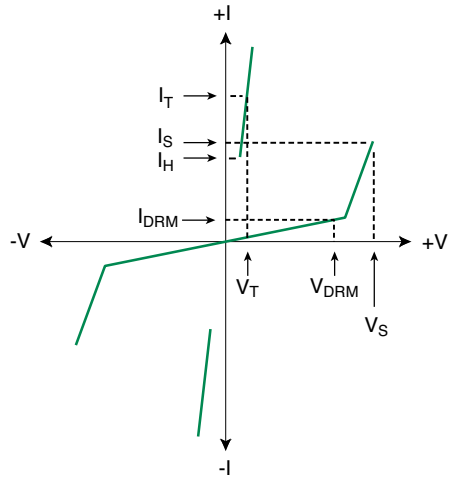

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## Surge Ratings

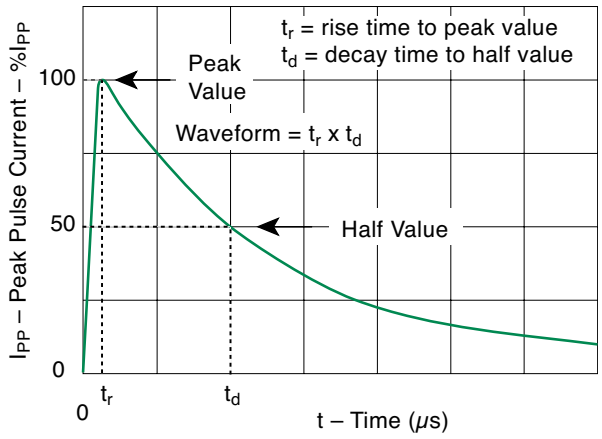
| Series | $I_{PP}$ | |
|---|---|---|
| | 10x1000 µs | 10x560 µs |
| | Amps | Amps |
| | Min | Min |
| A | 45 | —— |
| B | 80 | 100 |

- $I_{PP}$ applies to -40°C through +85°C temperature range.
- $I_{PP}$ is a repetitive surge rating and is guaranteed for the life of the product.

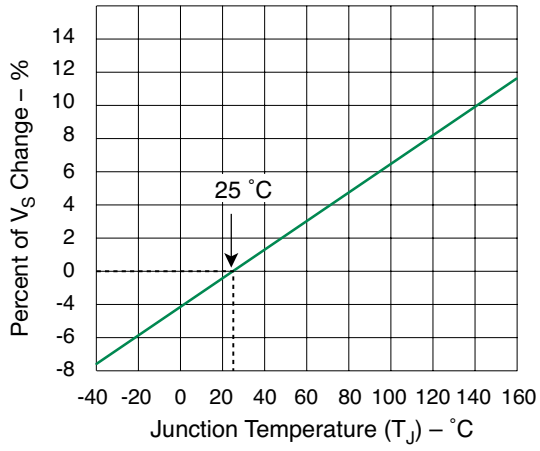
## V-I Characteristics



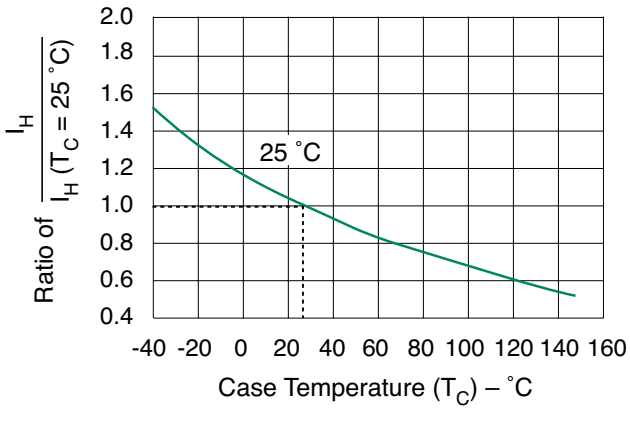

## $t_r$ x $t_d$ Pulse Waveform




## Normalized $V_S$ Change Versus Junction Temperature




## Normalized DC Holding Current Versus Case Temperature

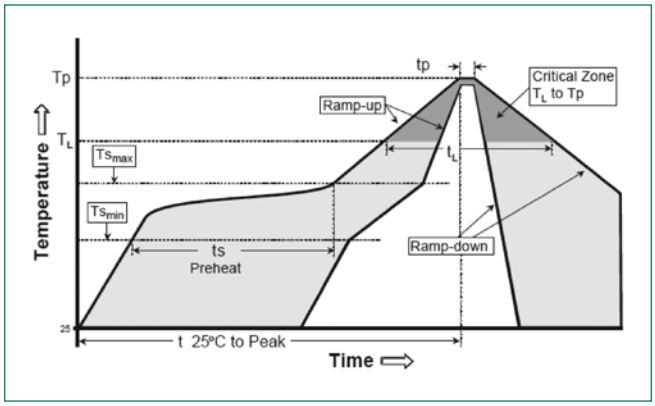




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## Soldering Parameters

| | | |
|---|---|---|
| Reflow Condition | | Pb – Free assembly |
| Pre Heat | -Temperature Min ($T_{s(min)}$) | 150°C |
| | -Temperature Max ($T_{s(max)}$) | 190°C |
| | -Time (min to max) ($t_s$) | 60 – 150 seconds |
| Average ramp up rate (Liquidus Temp ($T_L$) to peak) | | 5°C/second max |
| $T_{S(max)}$ to $T_L$ - Ramp-up Rate | | 5°C/second max |
| Reflow | -Temperature ($T_L$) (Liquidus) | 220°C |
| | -Time (min to max) ($t_s$) | >60 – <150 seconds |
| Peak Temperature ($T_P$) | | $250^{+0/-5}$ °C |
| Time within 5°C of actual peak Temperature ($t_p$) | | 20 – 40 seconds |
| Ramp-down Rate | | 5°C/second max |
| Time 25°C to peak Temperature ($T_P$) | | 8 minutes max. |
| Do not exceed | | 280°C |



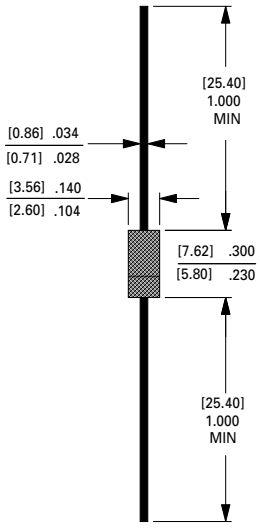

## Physical Specifications

| | |
|---|---|
| **Terminal Material** | Matte Tin-plated Axial leads |
| **Lead Solderability** | MIL-STD-750, Method 2026 |

## Environmental Specifications

| | |
|---|---|
| **Operating/Storage Temperature** | -40° C to ~ +150°C |
| **Passive Aging** | 125° C, 1000 hours<br>Meet Spec |
| **Humidity Aging** | +85°C, 85% R.H. 1000 hours<br>Meet Spec |
| **Thermal Shock** | MIL-STD-202 Method 107G<br>+85°C/-40°C 100 times<br>Meet Spec |
| **Solvent Resistance** | MIL-STD-202, Method 215<br>No Change |
| **Vibration** | MIL-STD-883C, Method 2007.1,<br>Condition A<br>No Change |

## Dimensions

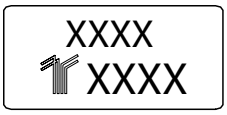



Dimensions in inches and (millimeters)

DO-15 SERIES


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## Part Marking System




First Line: Product Name (see marking column in table on page 1)

Second Line: Lot number

## Part Numbering System

**Pxxx 0 G X L RP**

**DEVICE TYPE**
**P**: SIDACtor

**MEDIAN VOLTAGE**
**xxx** : xxx volts

**CONSTRUCTION VARIATION**
**0** : Single SIDACtor chip used as a single device

**PACKAGE TYPE**
**G** : DO-15

**SURGE $I_{PP}$ Rating**
**A** : 45AMP 10x1000µs
**B** : 80AMP 10x1000µs

**L** : RoHS Compliant

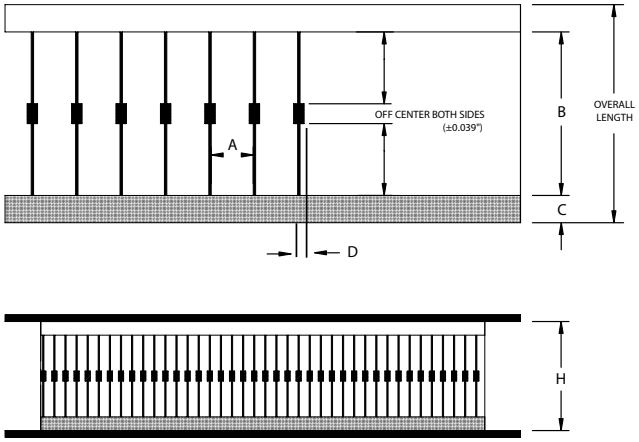
**PACKING STYLE**
**RP** : Reel Pack per EIA RS-296

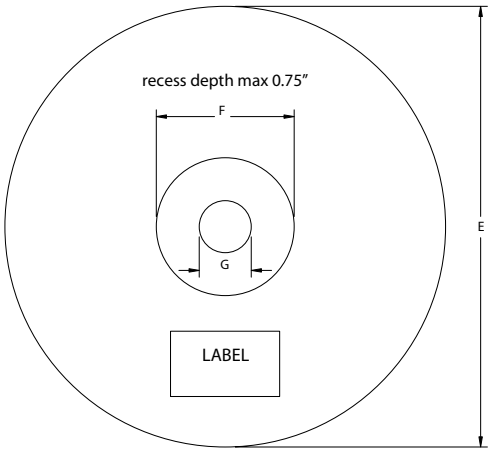
## Packaging

| Package Type | Description | Packing Quantity | Added Suffix | Industry Standard |
|---|---|---|---|---|
| DO-15 | Axial | 5000 | RP | EIA RS-296 |

## Tape and Reel Specification

| Symbol | Description | Inches | MM |
|---|---|---|---|
| A | Component Spacing (lead to lead) | 0.200 ± 0.020″ | 5.08 ± 0.508 |
| B | Tape Spacing | 2.062 ± 0.059″ | 52.37 ± 1.498 |
| C | Tape Width | 0.250″ | 6.35 |
| D | Max. Off Alignment | 0.048″ | 1.219 |
| E | Reel Dimension | 13″ | 330.2 |
| F | Max Hub Recess | 3″ | 76.19 |
| G | Max. Abor Hole | 0.68″ | 17.27 |
| H | Reel Dimension | 2.75″ | 69.85 |





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