



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!



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MKP1V120 Series

Sidac High Voltage

Bidirectional Triggers

Bidirectional devices designed for direct interface with the ac power line. Upon reaching the breakover voltage in each direction, the device switches from a blocking state to a low voltage on-state. Conduction will continue like a Triac until the main terminal current drops below the holding current. The plastic axial lead package provides high pulse current capability at low cost. Glass passivation insures reliable operation.

Features

- High Pressure Sodium Vapor Lighting
- Strobes and Flashers
- Igniters
- High Voltage Regulators
- Pulse Generators
- Used to Trigger Gates of SCR's and Triacs
-  Indicates UL Registered – File #E128662
- These are Pb-Free Devices

MAXIMUM RATINGS (T_J = 25°C unless otherwise noted)

| Rating | Symbol | Value | Unit |
|--|--|---------------|------|
| Peak Repetitive Off-State Voltage (Sine Wave, 50 to 60 Hz, T _J = -40 to 125°C) MKP1V120, MKP1V130, MKP1V160 MKP1V240 | V _{DRM} , V _{RRM} | ± 90 ± 180 | V |
| On-State Current RMS (T _L = 80°C, Lead Length = 3/8", All Conduction Angles) | I _{T(RMS)} | ± 0.9 | A |
| Peak Non-repetitive Surge Current (60 Hz One Cycle Sine Wave, T _J = 125°C) | I _{TSM} | ± 4.0 | A |
| Operating Junction Temperature Range | T _J | -40 to +125 | °C |
| Storage Temperature Range | T _{stg} | -40 to +150 | °C |

THERMAL CHARACTERISTICS


| Characteristic | Symbol | Max | Unit |
|--|------------------|-----|------|
| Thermal Resistance, Junction-to-Lead Lead Length = 3/8" | R _{θJL} | 40 | °C/W |
| Lead Solder Temperature (Lead Length ≥ 1/16" from Case, 10 s Max) | T _L | 260 | °C |

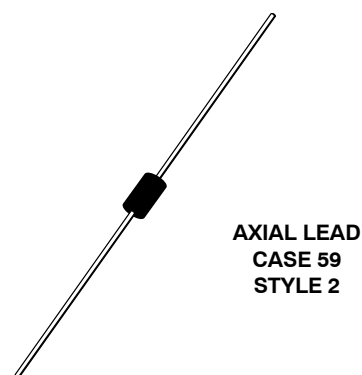
Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.



Expertise Applied | Answers Delivered

Littelfuse.com

SIDACS()
0.9 AMPERES RMS
120 – 240 VOLTS



AXIAL LEAD
CASE 59
STYLE 2

MARKING DIAGRAM



A = Assembly Location
 MKP1Vxx0 = Device Number
 x = 12, 13, 16 or 24
 YY = Year
 WW = Work Week
 ■ = Pb-Free Package

(Note: Microdot may be in either location)

ORDERING INFORMATION

See detailed ordering and shipping information on page 2 of this data sheet.

MKP1V120 Series

ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted; Electricals apply in both directions)

| Characteristic | Symbol | Min | Typ | Max | Unit |
|----------------|--------|-----|-----|-----|------|
|----------------|--------|-----|-----|-----|------|

OFF CHARACTERISTICS

| | | | | | |
|--|------------------|---|---|-----|----|
| Repetitive Peak Off-State Current T _J = 25°C (50 to 60 Hz Sine Wave) V _{DRM} = 90 V, MKP1V120, MKP1V130 and MKP1V160 V _{DRM} = 180 V, MKP1V240 | I _{DRM} | - | - | 5.0 | μA |
|--|------------------|---|---|-----|----|

ON CHARACTERISTICS

| | | | | | |
|--|-----------------|--------------------------|------------------|--------------------------|----|
| Breakover Voltage I _{BO} = 35 μA MKP1V120 35 μA MKP1V130 200 μA MKP1V160 35 μA MKP1V240 | V _{BO} | 110 120 150 220 | - - - - | 130 140 170 250 | V |
| Peak On-State Voltage (I _{TM} = 1 A Peak, Pulse Width ≤ 300 μs, Duty Cycle ≤ 2%) | V _{TM} | - | 1.3 | 1.5 | V |
| Dynamic Holding Current (Sine Wave, 50 to 60 Hz, R _L = 100 Ohm) | I _H | - | - | 100 | mA |
| Switching Resistance (Sine Wave, 50 to 60 Hz) | R _S | 0.1 | - | - | kΩ |

DYNAMIC CHARACTERISTICS

| | | | | | |
|---|-------|---|-----|---|------|
| Critical Rate-of-Rise of On-State Current, Critical Damped Waveform Circuit (I _{PK} = 130 Amps, Pulse Width = 10 μsec) | di/dt | - | 120 | - | A/μs |
|---|-------|---|-----|---|------|

ORDERING INFORMATION

| Device | Package* | Shipping† |
|-------------|-------------------|--------------------|
| MKP1V120RLG | DO-41, Axial Lead | 5000 / Tape & Reel |
| MKP1V130RLG | | 5000 / Tape & Reel |
| MKP1V160G | | 1000 Units / Bulk |
| MKP1V160RLG | | 5000 / Tape & Reel |
| MKP1V240G | | 1000 Units / Bulk |
| MKP1V240RLG | | 5000 / Tape & Reel |

*This package is inherently Pb-Free.

MKP1V120 Series

Voltage Current Characteristic of SIDAC (Bidirectional Device)

| Symbol | Parameter |
|-----------|---------------------------------------|
| I_{DRM} | Off State Leakage Current |
| V_{DRM} | Off State Repetitive Blocking Voltage |
| V_{BO} | Breakover Voltage |
| I_{BO} | Breakover Current |
| I_H | Holding Current |
| V_{TM} | On State Voltage |
| I_{TM} | Peak on State Current |

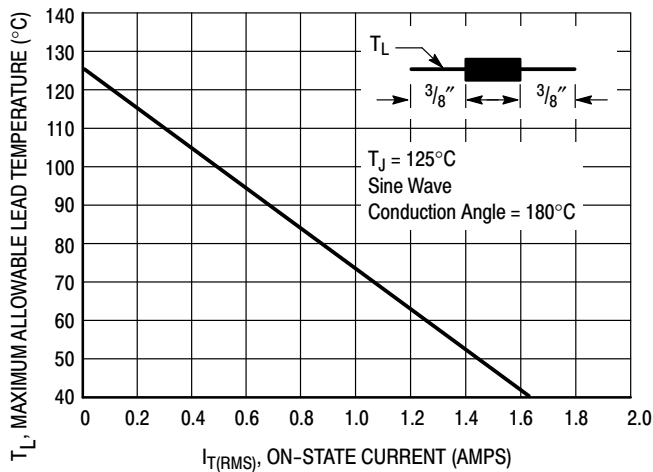
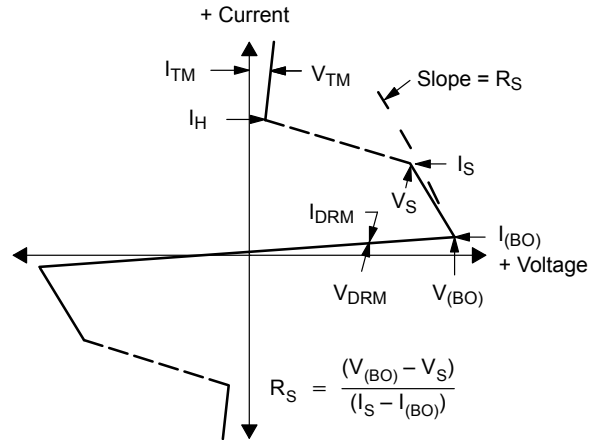


Figure 1. Maximum Lead Temperature

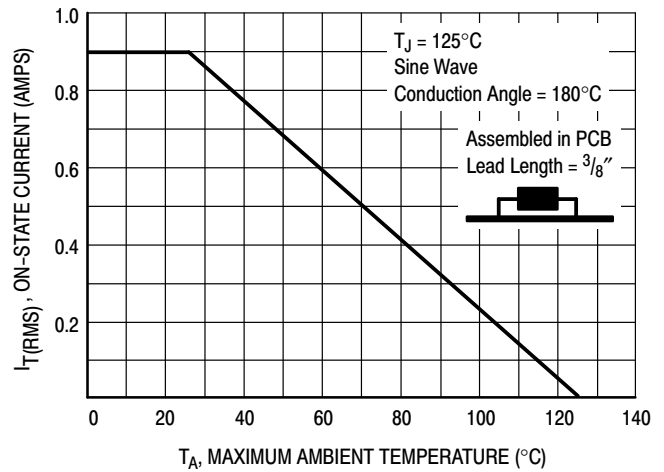


Figure 2. Maximum Ambient Temperature

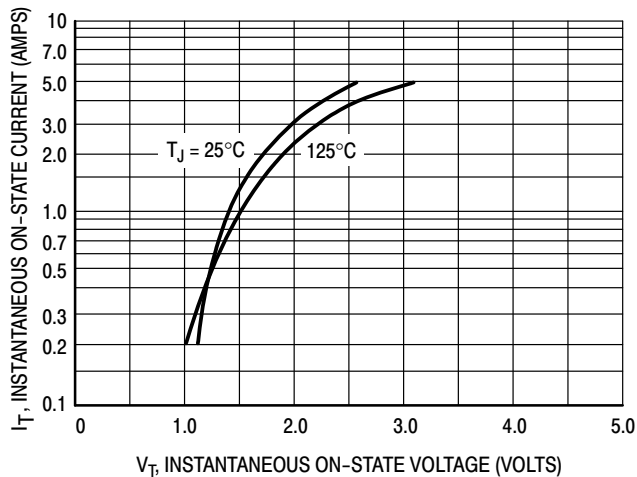


Figure 3. Typical On-State Voltage

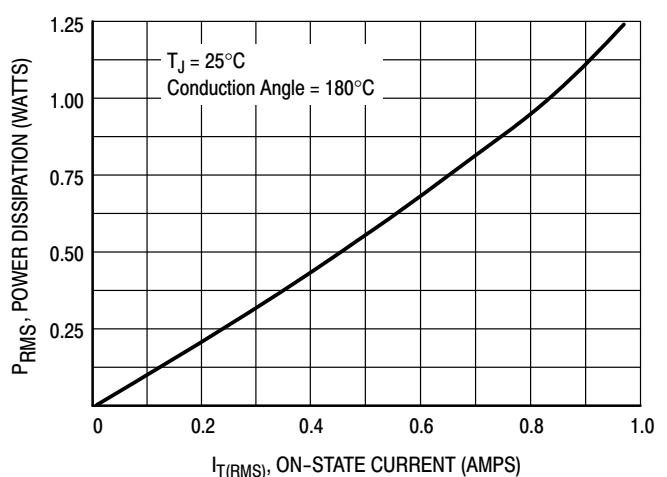


Figure 4. Typical Power Dissipation

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THERMAL CHARACTERISTICS

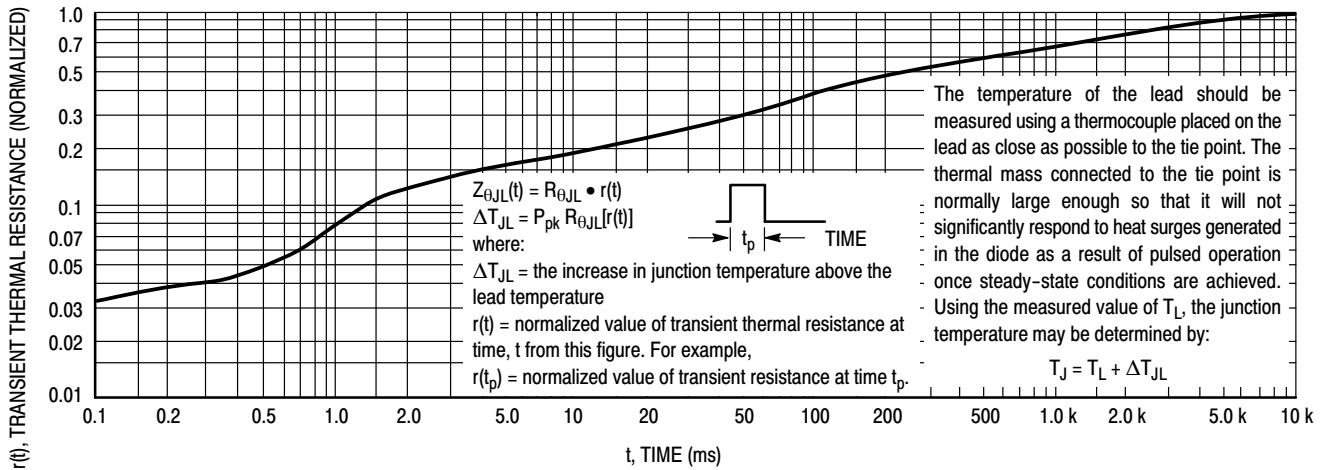


Figure 5. Thermal Response

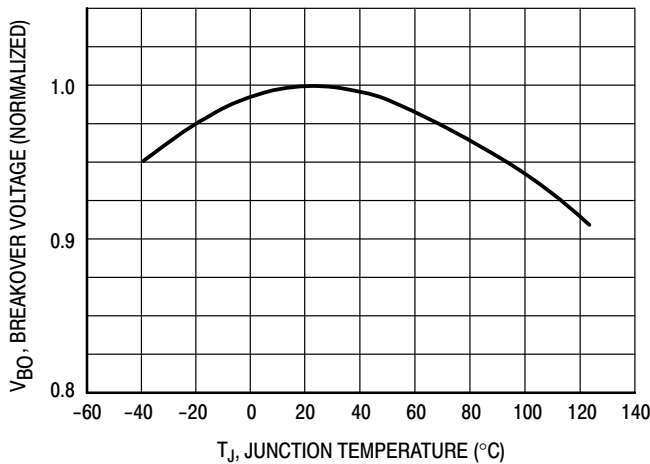


Figure 6. Typical Breakover Voltage

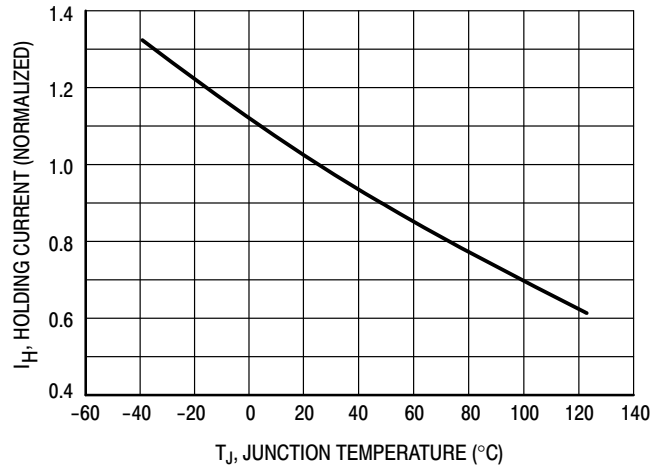


Figure 7. Typical Holding Current

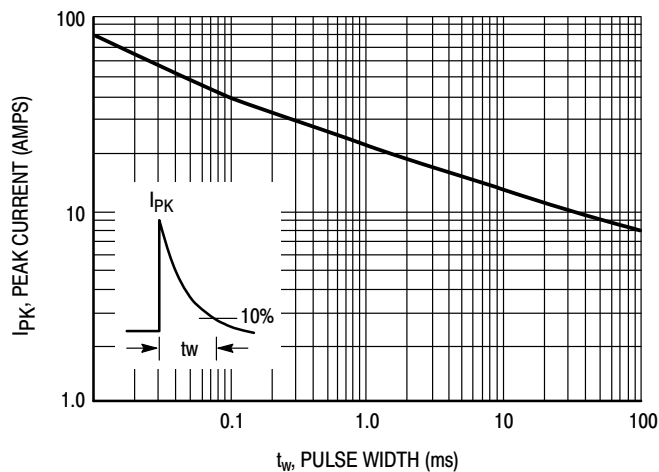
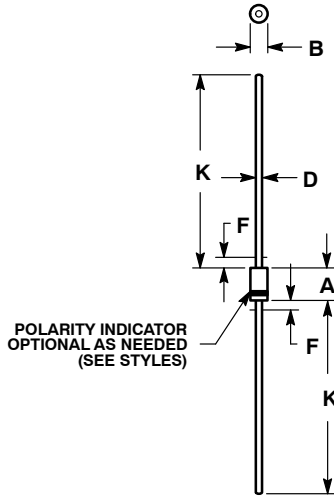


Figure 8. Pulse Rating Curve

MKP1V120 Series

PACKAGE DIMENSIONS

AXIAL LEAD CASE 59-10 ISSUE U



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. ALL RULES AND NOTES ASSOCIATED WITH JEDEC DO-41 OUTLINE SHALL APPLY
4. POLARITY DENOTED BY CATHODE BAND.
5. LEAD DIAMETER NOT CONTROLLED WITHIN F DIMENSION.

| DIM | INCHES | | MILLIMETERS | |
|-----|--------|-------|-------------|------|
| | MIN | MAX | MIN | MAX |
| A | 0.161 | 0.205 | 4.10 | 5.20 |
| B | 0.079 | 0.106 | 2.00 | 2.70 |
| D | 0.028 | 0.034 | 0.71 | 0.86 |
| F | --- | 0.050 | --- | 1.27 |
| K | 1.000 | --- | 25.40 | --- |

STYLE 2:
NO POLARITY

Littelfuse products are not designed for, and shall not be used for, any purpose (including, without limitation, automotive, military, aerospace, medical, life-saving, life-sustaining or nuclear facility applications, devices intended for surgical implant into the body, or any other application in which the failure or lack of desired operation of the product may result in personal injury, death, or property damage) other than those expressly set forth in applicable Littelfuse product documentation. Warranties granted by Littelfuse shall be deemed void for products used for any purpose not expressly set forth in applicable Littelfuse documentation. Littelfuse shall not be liable for any claims or damages arising out of products used in applications not expressly intended by Littelfuse as set forth in applicable Littelfuse documentation. The sale and use of Littelfuse products is subject to Littelfuse Terms and Conditions of Sale, unless otherwise agreed by Littelfuse.

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