



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!



## Contact us

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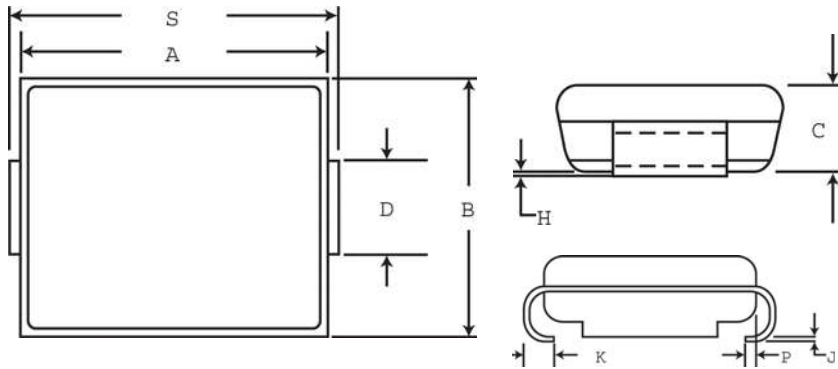
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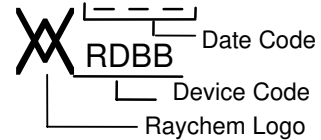


**Specification Status: RELEASED**

**PHYSICAL DESCRIPTION**



**Marking:**



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|      | A       |         | B       |         | C       |         | D**     |         | H       |         | J       |         | K       |         |
|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|      | MIN     | MAX     | MIN     | MAX     | MIN     | MAX     | MIN     | MAX     | MIN     | MAX     | MIN     | MAX     | MIN     | MAX     |
| mm:  | 4.06    | 4.57    | 3.30    | 3.81    | 1.90    | 2.41    | 1.96    | 2.11    | 0.051   | 0.152   | 0.15    | 0.30    | 0.76    | 1.27    |
| in*: | (0.160) | (0.180) | (0.130) | (0.150) | (0.075) | (0.095) | (0.077) | (0.083) | (0.002) | (0.006) | (0.006) | (0.012) | (0.030) | (0.050) |

|      | P       | S       |         |
|------|---------|---------|---------|
|      | REF     | MIN     | MAX     |
| mm:  | 0.51    | 5.21    | 5.59    |
| in*: | (0.020) | (0.205) | (0.220) |

\*Rounded off approximation

\*\* D DIMENSION SHALL BE MEASURED WITHIN DIMENSION P

**Other Physical Characteristics**

Form Factor: SMB (Surface Mount, JEDEC DO-214AA Package)  
 Lead Material: Tin / lead finish  
 Encapsulation Material: Epoxy, meets UL94 V-0 requirements  
 Solderability: per MIL-STD-750, Method 2026  
 Solder Heat Withstand: per MIL-STD-750, Method 2031  
 Solvent Resistance: per MIL-STD-750, Method 1022  
 Mechanical Shock: per MIL-STD-750, Method 2016  
 Vibration: per MIL-STD-750, Method 2056

Tape and Reel packaging per EIA 481-1

Agency Recognition: UL

Precedence: This specification takes precedence over documents referenced herein.

CAUTION: Operation beyond the rated voltage or current may result in rupture, electrical arcing or flame.

**Materials Information**

ELV Compliant



**DEVICE RATINGS @ 25° C (Both Polarities)**

| Parameter  | Symbol           | Value | Units      |
|--|------------------|-------|------------|
| Repetitive off-State Voltage, Maximum at $I_D = 5 \mu A$                             | VDM              | 200   | V          |
| Non-Repetitive Peak<br>Telcordia GR-1089 CORE 10x1000 $\mu s$                        | IPP <sub>1</sub> | 50    | A          |
| Impulse Current<br>TIA-968 lightning Type A Metallic 10/560 $\mu s$                  | IPP <sub>2</sub> | 70    | A          |
| Double exponential<br>TIA-968 lightning Type A Longit. 10/160 $\mu s$                | IPP <sub>3</sub> | 100   | A          |
| Waveform<br>Telcordia GR-1089 Intrabuilding 2/10 $\mu s$                             | IPP <sub>4</sub> | 150   | A          |
| (Notes 1 and 2)<br>IEC61000-4-5 (Voc 1.2/50us) 8/20 $\mu s$                          | IPP <sub>5</sub> | 150   | A          |
| ITU-T K.20/K.21 (Voc 10/700us) 5/310 $\mu s$   | IPP <sub>6</sub> | 90    | A          |
| TIA-968 lightning Type B (Voc 9/720us) 5/320 $\mu s$                                 | IPP <sub>7</sub> | 90    | A          |
| Critical Rate of Rise of On-State Current<br>Powered Pulse Amplifier, C=30uF, V=600V | di/dt            | 500   | A/ $\mu s$ |
| Maximum 2x10 $\mu s$ waveform, V <sub>OC</sub> =750V, I <sub>SC</sub> =150A peak     | di/dt            | 110   | A/ $\mu s$ |

**DEVICE THERMAL RATINGS**

|   |      |            |    |
|---|------|------------|----|
| Storage Temperature Range                                       | TSTG | -55 to 150 | °C |
| Operating Temperature Range<br>Blocking or conducting state     | TA   | -40 to 125 | °C |
| Overload Junction Temperature<br>Maximum; Conducting state only | TJ   | +150       | °C |
| Maximum Lead Temperature for Soldering Purpose; for 10 seconds  | TL   | +260       | °C |

**ELECTRICAL CHARACTERISTICS Both polarities (T<sub>J</sub> @ 25°C unless otherwise noted)**

| Characteristics  | Symbol               | Min  | Typ   | Max   | Units      |
|--|----------------------|------|-------|-------|------------|
| Breakover Voltage (+25°C)<br>(dv/dt = 0.4kV/ $\mu s$ ec, I <sub>SC</sub> =900mA, V <sub>DC</sub> = 500V (both polarities))             | VBO                  | ---- | 260   | 320   | V          |
| Breakover Voltage Temperature Coefficient  | dVBO/dT <sub>J</sub> | ---- | 0.1   | ----- | %/°C       |
| Off-State Current (VD1=50V)  | ID1                  | ---- | ----- | 2.0   | $\mu A$    |
| (VD2=VDM)  | ID2                  | ---- | ----- | 5.0   | $\mu A$    |
| On-State Voltage (IT=1A)   | VT                   | ---- | ----- | 4.0   | V          |
| (PW ≤ 300 $\mu s$ ec, Duty Cycle ≤ 2% (Note 2))  |                      |      |       |       |            |
| Breakover Current  | IBO                  | ---- | ----- | 800   | mA         |
| Holding Current (Note 2)   | IH                   | 150  | ----- | ----  | mA         |
| Peak Onstage Surge Current<br>(Measured @ 60Hz, 1 cycle, 600V)   | ITSM                 | 22   | ----  | ----  | A          |
| Critical Rate of Rise of Off-State Voltage<br>(Linear waveform, V <sub>D</sub> = 0.8 X Rated V <sub>BO</sub> , T <sub>J</sub> = +25°C) | dv/dt                | 2000 | ----  | ----  | V/ $\mu s$ |
| Capacitance (f=1.0 Mhz, 50V <sub>DC</sub> bias, 1 Vrms)  | C1                   | ---- | 18    | ----  | pF         |
| (f=1.0 Mhz, 2V <sub>DC</sub> bias, 1 Vrms)   | C2                   | ---- | 35    | ----  | pF         |

Note 1. Allow cooling before test second polarity

Note 2. Measured under pulse conditions to reduce heating

**VOLTAGE-CURRENT CHARACTERISTIC**

