



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.

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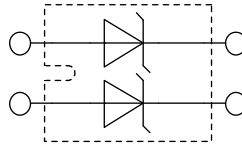


Schottky Diode

High Performance Schottky Diode
 Low Loss and Soft Recovery
 Parallel legs

Part number

DSS2x121-0045B



Backside: isolated

E72873

Features / Advantages:

- Very low V_f
- Extremely low switching losses
- low I_{rm} values
- Improved thermal behaviour
- High reliability circuit operation
- Low voltage peaks for reduced protection circuits
- Low noise switching

Applications:

- Rectifiers in switch mode power supplies (SMPS)
- Free wheeling diode in low voltage converters

Package:

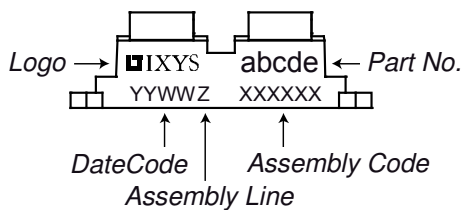
- Housing: SOT-227B (minibloc)
- Industry standard outline
- Cu base plate internal DCB isolated
- Isolation Voltage 3000 V
- Epoxy meets UL 94V-0
- RoHS compliant

Ratings

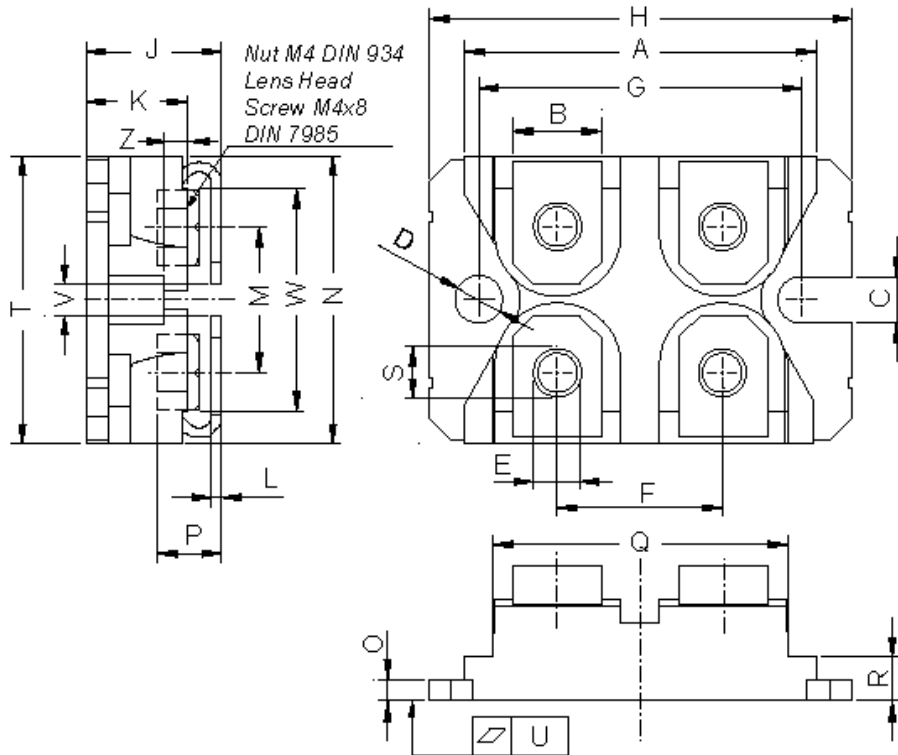
| Symbol | Definition | Conditions | Ratings | | | Unit |
|------------|-------------------------------------|--------------------------------------|---------|------|------|------|
| | | | min. | typ. | max. | |
| V_{RRM} | max. repetitive reverse voltage | | | | 45 | V |
| I_R | reverse current | $V_R = 45\text{ V}$ | | | 120 | mA |
| | | $V_R = 45\text{ V}$ | | | 500 | mA |
| V_F | forward voltage | $I_F = 120\text{ A}$ | | | 0.62 | V |
| | | $I_F = 240\text{ A}$ | | | 0.89 | V |
| | | $I_F = 120\text{ A}$ | | | 0.59 | V |
| | | $I_F = 240\text{ A}$ | | | 0.90 | V |
| I_{FAV} | average forward current | rectangular d = 0.5 | | | 120 | A |
| V_{F0} | threshold voltage | | | | 0.27 | V |
| r_F | slope resistance | | | | | |
| R_{thJC} | thermal resistance junction to case | | | | 0.40 | K/W |
| T_{VJ} | virtual junction temperature | | -40 | | 150 | °C |
| P_{tot} | total power dissipation | | | | 310 | W |
| I_{FSM} | max. forward surge current | t = 10 ms (50 Hz), sine | | | 1600 | A |
| C_J | junction capacitance | $V_R = 5\text{ V}; f = 1\text{ MHz}$ | | 5.86 | | nF |

| Symbol | Definition | Conditions | Ratings | | | Unit |
|---------------|---|----------------------|---------|------|------|------|
| | | | min. | typ. | max. | |
| I_{RMS} | RMS current | per terminal | | | 150 | A |
| R_{thCH} | thermal resistance case to heatsink | | | 0.10 | | K/W |
| T_{stg} | storage temperature | | -40 | | 150 | °C |
| Weight | | | | 30 | | g |
| M_D | mounting torque | | 1.1 | | 1.5 | Nm |
| M_T | terminal torque | | 1.1 | | 1.5 | Nm |
| V_{ISOL} | isolation voltage | t = 1 second | 3000 | | | V |
| | | t = 1 minute | 2500 | | | V |
| $d_{Spp/App}$ | creepage / striking distance on surface / through air | terminal to terminal | 10.5 | 3.2 | | mm |
| $d_{Spb/Apb}$ | creepage / striking distance on surface / through air | terminal to backside | 8.6 | 6.8 | | mm |

Product Marking



| Ordering | Part Name | Marking on Product | Delivering Mode | Base Qty | Code Key |
|----------|----------------|--------------------|-----------------|----------|----------|
| Standard | DSS2x121-0045B | DSS2x121-0045B | Tube | 10 | 478334 |

Outlines SOT-227B (minibloc)


| Dim. | Millimeter | | Inches | |
|------|------------|-------|--------|-------|
| | min | max | min | max |
| A | 31.50 | 31.88 | 1.240 | 1.255 |
| B | 7.80 | 8.20 | 0.307 | 0.323 |
| C | 4.09 | 4.29 | 0.161 | 0.169 |
| D | 4.09 | 4.29 | 0.161 | 0.169 |
| E | 4.09 | 4.29 | 0.161 | 0.169 |
| F | 14.91 | 15.11 | 0.587 | 0.595 |
| G | 30.12 | 30.30 | 1.186 | 1.193 |
| H | 37.80 | 38.23 | 1.488 | 1.505 |
| J | 11.68 | 12.22 | 0.460 | 0.481 |
| K | 8.92 | 9.60 | 0.351 | 0.378 |
| L | 0.74 | 0.84 | 0.029 | 0.033 |
| M | 12.50 | 13.10 | 0.492 | 0.516 |
| N | 25.15 | 25.42 | 0.990 | 1.001 |
| O | 1.95 | 2.13 | 0.077 | 0.084 |
| P | 4.95 | 6.20 | 0.195 | 0.244 |
| Q | 26.54 | 26.90 | 1.045 | 1.059 |
| R | 3.94 | 4.42 | 0.155 | 0.167 |
| S | 4.55 | 4.85 | 0.179 | 0.191 |
| T | 24.59 | 25.25 | 0.968 | 0.994 |
| U | -0.05 | 0.10 | -0.002 | 0.004 |
| V | 3.20 | 5.50 | 0.126 | 0.217 |
| W | 19.81 | 21.08 | 0.780 | 0.830 |
| Z | 2.50 | 2.70 | 0.098 | 0.106 |

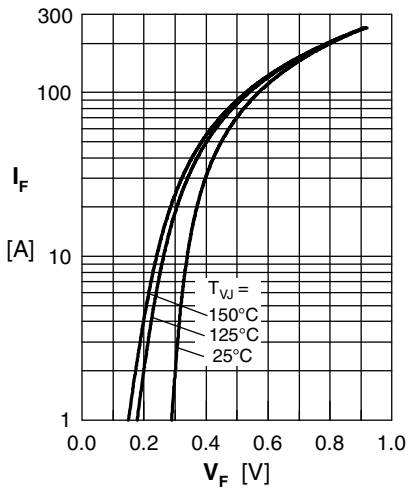


Fig. 1 Maximum forward voltage drop characteristics

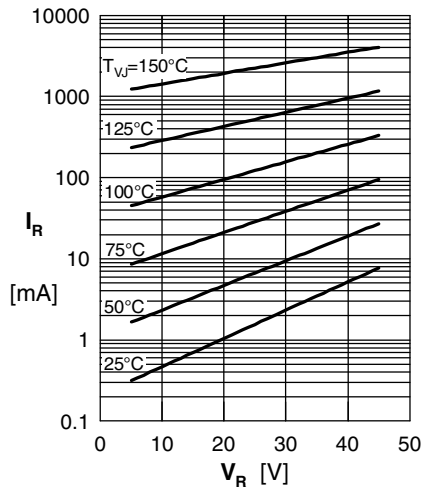


Fig. 2 Typ. reverse current I_R vs. reverse voltage V_R

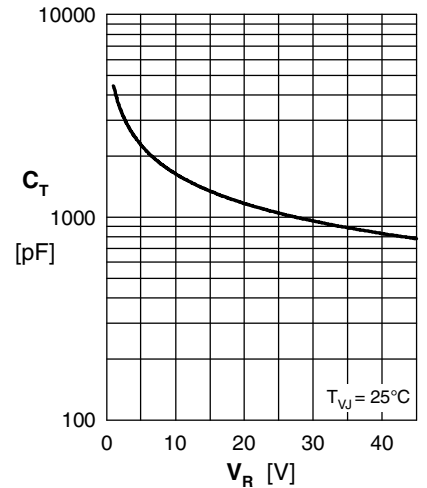


Fig. 3 Typ. junction capacitance C_T vs. reverse voltage V_R

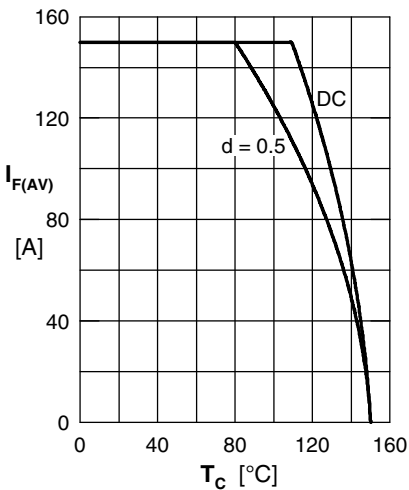


Fig. 4 Average forward current $I_{F(AV)}$ vs. case temperature T_C

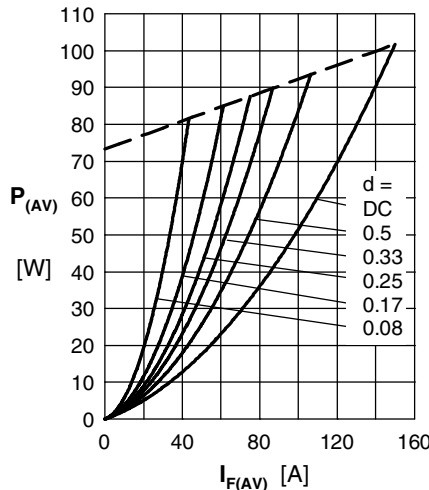


Fig. 5 Forward power loss characteristics

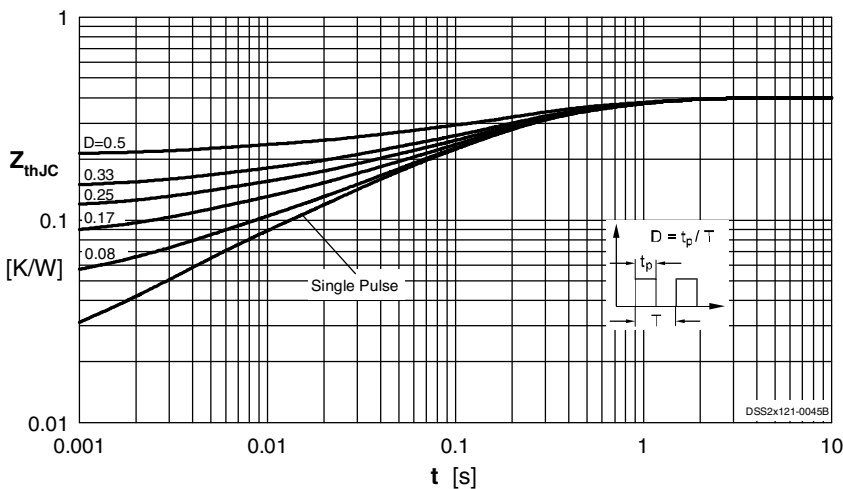


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode