

# SCHOTTKY BARRIER DIODE

## ●Applications

Low current rectification and high speed switching

## ●Features

Extremelysmall surface mounting type. (SOD523)

$I_o=200\text{mA}$  guaranteed despite the size.

Low  $V_F$ .

S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

## ●Construction

Silicon epitaxial planar

- We declare that the material of product compliance with RoHS requirements.

Ordering Information

| Device                           | Marking | Shipping        |
|----------------------------------|---------|-----------------|
| LRB521S-40T1G<br>S-LRB521S-40T1G | S       | 3000/Tape&Reel  |
| LRB521S-40T3G<br>S-LRB521S-40T3G | S       | 10000/Tape&Reel |

## MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ )

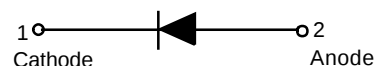
| Parameter                   | Symbol    | Limits   | Unit             |
|-----------------------------|-----------|----------|------------------|
| DC reverse voltage          | $V_R$     | 40       | V                |
| Mean rectifying current     | $I_o$     | 200      | mA               |
| Peak forward surge current* | $I_{FSM}$ | 4        | A                |
| Junction temperature        | $T_j$     | 125      | $^\circ\text{C}$ |
| Storage temperature         | $T_{slg}$ | -55~+125 | $^\circ\text{C}$ |

\*60Hz for 1

## ELECTRICAL CHARACTERISTICS( $T_A = 25^\circ\text{C}$ )

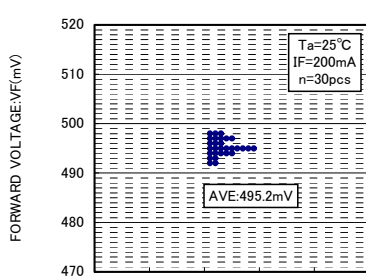
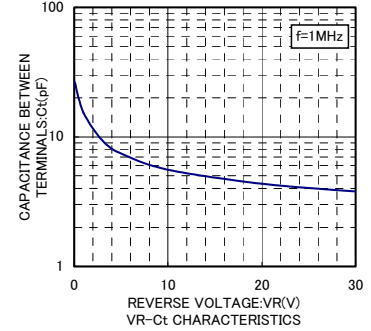
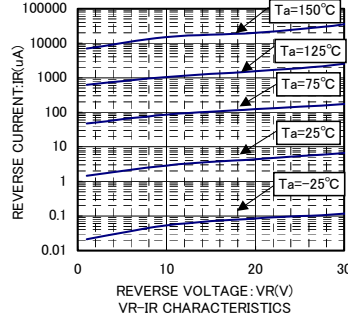
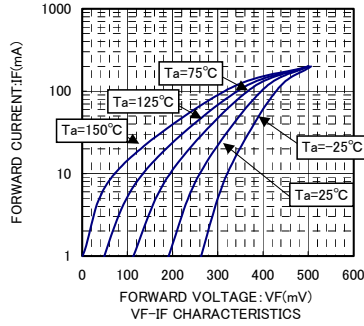
| Parameter              | Symbol | Min. | Max. | Unit          | Conditions                                                               |
|------------------------|--------|------|------|---------------|--------------------------------------------------------------------------|
| Forward voltage        | $V_F$  | 0.16 | 0.30 | V             | $I_F=10\text{mA}$                                                        |
| Forward voltage        | $V_F$  | 0.31 | 0.45 | V             | $I_F=100\text{mA}$                                                       |
| Forward voltage        | $V_F$  | 0.37 | 0.52 | V             | $I_F=200\text{mA}$                                                       |
| Reverse current        | $I_R$  | –    | 20   | $\mu\text{A}$ | $V_R=10\text{V}$                                                         |
| Reverse current        | $I_R$  | –    | 90   | $\mu\text{A}$ | $V_R=40\text{V}$                                                         |
| ESD break down voltage | ESD    | 8    | –    | K V           | $C=100\text{pF}$<br>$R=1.5\text{K } \Omega$<br>forward and reverse1 time |

**LRB521S-40T1G**  
**S-LRB521S-40T1G**

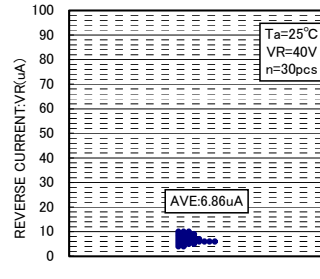


LRB521S-40T1G, S-LRB521S-40T1G

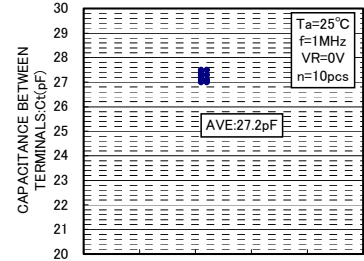
●Electrical characteristic curves



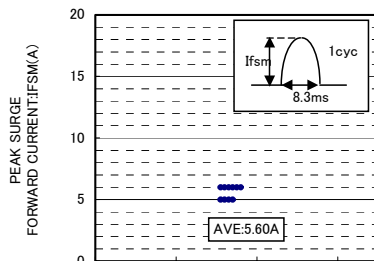
VF DISPERSION MAP



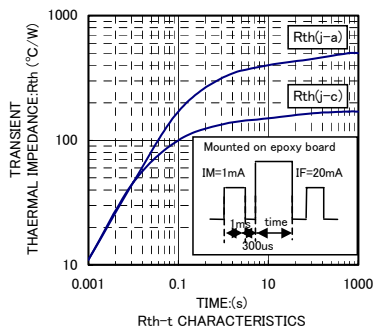
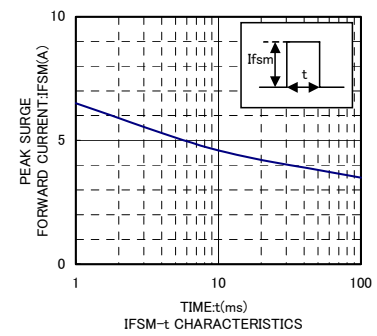
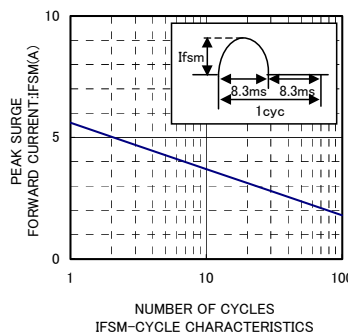
IR DISPERSION MAP



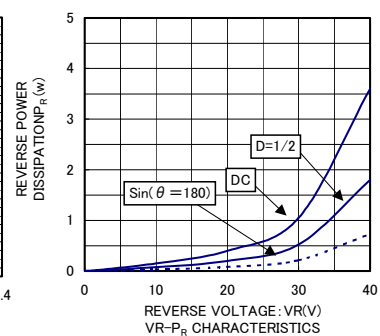
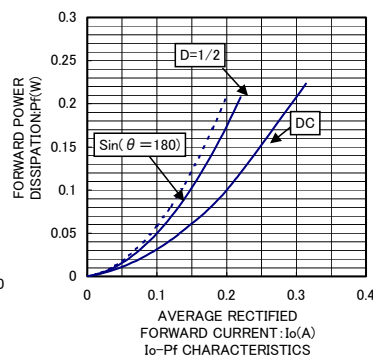
Ct DISPERSION MAP

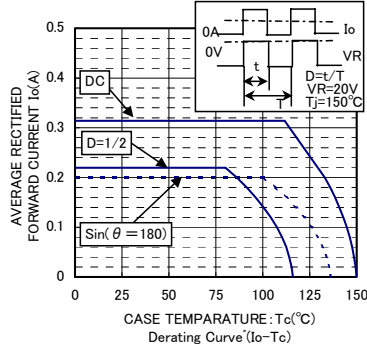
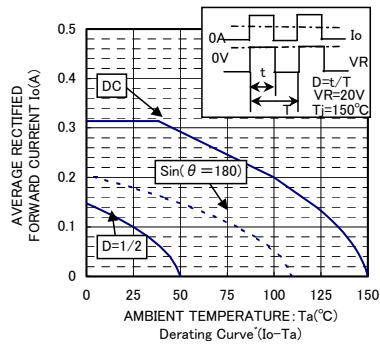


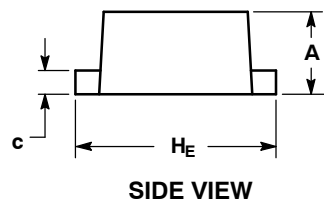
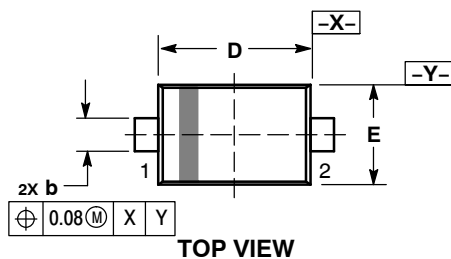
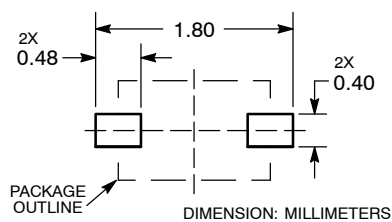
IFSM DISPERSION MAP



Rth-t CHARACTERISTICS



**LRB521S-40T1G , S-LRB521S-40T1G**


**LRB521S-40T1G , S-LRB521S-40T1G**
**SOD-523**

**RECOMMENDED  
SOLDERING FOOTPRINT\***

**NOTES:**

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

| DIM        | MILLIMETERS |      |      |
|------------|-------------|------|------|
|            | MIN         | NOM  | MAX  |
| <b>A</b>   | 0.50        | 0.60 | 0.70 |
| <b>b</b>   | 0.25        | 0.30 | 0.35 |
| <b>c</b>   | 0.07        | 0.14 | 0.20 |
| <b>D</b>   | 1.10        | 1.20 | 1.30 |
| <b>E</b>   | 0.70        | 0.80 | 0.90 |
| <b>H E</b> | 1.50        | 1.60 | 1.70 |
| <b>L</b>   | 0.30 REF    |      |      |
| <b>L2</b>  | 0.15        | 0.20 | 0.25 |