

## Excellent Integrated System Limited

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**DSB 2 I 40 SB**

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## Schottky

High Performance Schottky Diode  
Low Loss and Soft Recovery  
Single Diode

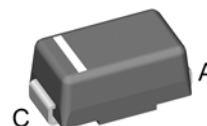
$$V_{RRM} = 40 \text{ V}$$

$$I_{FAV} = 2 \text{ A}$$

$$V_F = 0.42 \text{ V}$$

Part number (Marking on product)

DSB 2 I 40 SB (S2FBB)



### 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
- Low losses

### Applications:

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

### Package:

- SMB (DO-214AA)
- Industry standard outline
  - Epoxy meets UL 94V-0
  - RoHS compliant

### Ratings

Symbol	Definition	Conditions	Ratings			Unit	
			min.	typ.	max.		
$V_{RRM}$	max. repetitive reverse voltage	$T_{VJ} = 25 \text{ }^\circ\text{C}$			40	V	
$I_R$	reverse current	$V_R = 40 \text{ V}$			0.1	mA	
		$V_R = 40 \text{ V}$			25	mA	
$V_F$	forward voltage	$I_F = 2 \text{ A}$			0.50	V	
		$I_F = 4 \text{ A}$			0.60	V	
		$I_F = 2 \text{ A}$	$T_{VJ} = 125 \text{ }^\circ\text{C}$			0.42	V
		$I_F = 4 \text{ A}$	$T_{VJ} = 125 \text{ }^\circ\text{C}$			0.52	V
$I_{FAV}$	average forward current	rectangular, $d = 0.5$			2	A	
$V_{FO}$	threshold voltage	} for power loss calculation only				V	
$r_F$	slope resistance		$T_L = 150 \text{ }^\circ\text{C}$			m $\Omega$	
$R_{thJL}$	thermal resistance junction to lead*				25	K/W	
$T_{VJ}$	virtual junction temperature		-55		150	$^\circ\text{C}$	
$P_{tot}$	total power dissipation	$T_L = 25 \text{ }^\circ\text{C}$			5	W	
$I_{FSM}$	max. forward surge current	$t_p = 10 \text{ ms (50 Hz), sine}$			75	A	
$C_j$	junction capacitance	$V_R = 5 \text{ V}; f = 1 \text{ MHz}$			150	pF	
$E_{AS}$	non-repetitive avalanche energy	$I_{AS} = \text{A}; L = 100 \text{ } \mu\text{H}$			tbd	mJ	
$I_{AR}$	repetitive avalanche current	$V_A = 1.5 \cdot V_R \text{ typ.}; f = 10 \text{ kHz}$			tbd	A	

\* mounted on 1 inch square PCB



## DSB 2 I 40 SB

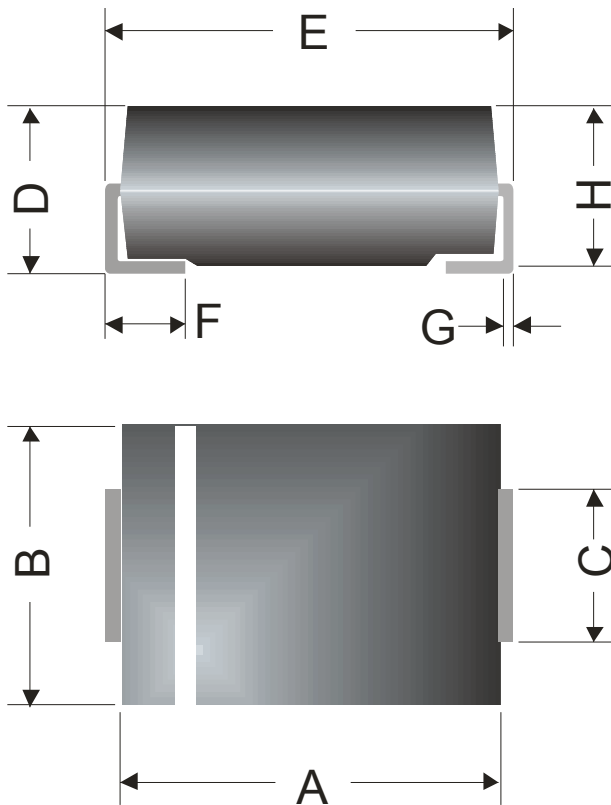
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Symbol	Definition	Conditions	Ratings			Unit
			min.	typ.	max.	
$I_{RMS}$	RMS current	per pin*				A
$R_{thJA}$	thermal resistance junction to ambient			70		K/W
$M_D$	mounting torque					Nm
$F_C$	mounting force with clip					N
$T_{stg}$	storage temperature		-55		150	°C
<b>Weight</b>				0.1		g

\* Irms is typically limited by: 1. pin-to-chip resistance; or by 2. current capability of the chip.

In case of 1, a common cathode/anode configuration and a non-isolated backside, the whole current capability can be used by connecting the backside.

### Outlines SMB (DO-214AA)



Dim.	Millimeters		Inches	
	min	max	min	max
A	4.06	4.57	0.160	0.180
B	3.30	3.94	0.130	0.155
C	1.95	2.20	0.077	0.087
D	2.13	2.44	0.084	0.096
E	5.21	5.59	0.205	0.220
F	0.76	1.52	0.030	0.060
G	0.15	0.31	0.006	0.012
H	2.00	2.20	0.079	0.087