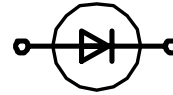


# Schottky

High Performance Schottky Diode  
 Low Loss and Soft Recovery  
 Single Diode

$V_{RRM} = 60\text{ V}$   
 $I_{FAV} = 1\text{ A}$   
 $V_F = 0.50\text{ V}$

Part number (Marking on product)  
**DSB 1 I 60 SA (S1HB)**



### 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:

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

### Ratings

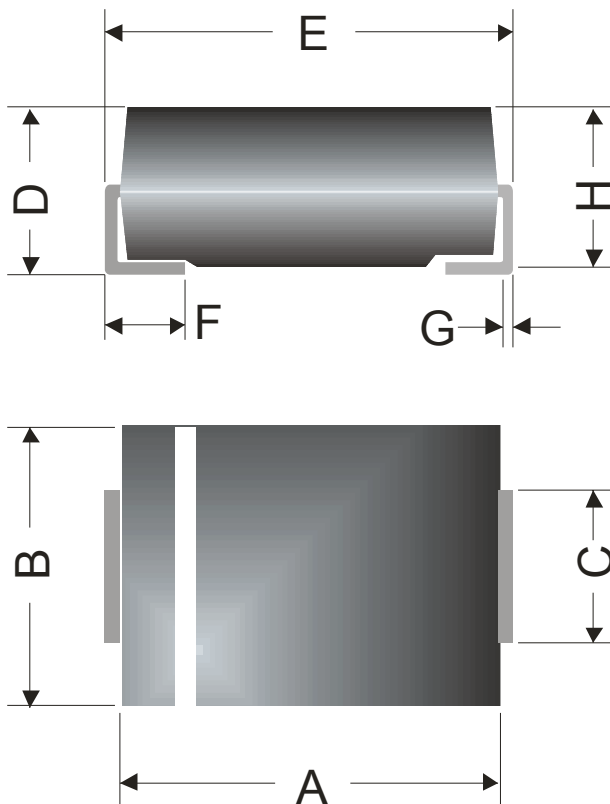
Symbol	Definition	Conditions	Ratings			Unit
			min.	typ.	max.	
$V_{RRM}$	max. repetitive reverse voltage	$T_{VJ} = 25\text{ °C}$			60	V
$I_R$	reverse current	$V_R = 60\text{ V}$ $T_{VJ} = 25\text{ °C}$			0.1	mA
		$V_R = 60\text{ V}$ $T_{VJ} = 125\text{ °C}$			15	mA
$V_F$	forward voltage	$I_F = 1\text{ A}$ $T_{VJ} = 25\text{ °C}$			0.58	V
		$I_F = 2\text{ A}$ $T_{VJ} = 25\text{ °C}$			0.72	V
		$I_F = 1\text{ A}$ $T_{VJ} = 125\text{ °C}$			0.50	V
		$I_F = 2\text{ A}$ $T_{VJ} = 125\text{ °C}$			0.64	V
$I_{FAV}$	average forward current	rectangular, $d = 0.5$ $T_L = 125\text{ °C}$			1	A
$V_{F0}$	threshold voltage	} for power loss calculation only $T_L = 150\text{ °C}$				V
$r_F$	slope resistance					m $\Omega$
$R_{thJL}$	thermal resistance junction to lead*				40	K/W
$T_{VJ}$	virtual junction temperature		-55		150	°C
$P_{tot}$	total power dissipation	$T_L = 25\text{ °C}$			3	W
$I_{FSM}$	max. forward surge current	$t_p = 10\text{ ms (50 Hz), sine}$ $T_{VJ} = 45\text{ °C}$			45	A
$C_j$	junction capacitance	$V_R = 5\text{ V}; f = 1\text{ MHz}$ $T_{VJ} = 25\text{ °C}$			65	pF
$E_{AS}$	non-repetitive avalanche energy	$I_{AS} = \text{A}; L = 100\text{ }\mu\text{H}$ $T_{VJ} = 25\text{ °C}$			tdb	mJ
$I_{AR}$	repetitive avalanche current	$V_A = 1.5 \cdot V_R$ typ.; $f = 10\text{ kHz}$			tdb	A

\* mounted on 1 inch square PCB

Symbol	Definition	Conditions	Ratings			Unit
			min.	typ.	max.	
$I_{RMS}$	RMS current	per pin*				A
$R_{thJA}$	thermal resistance junction to ambient			80		K/W
$M_D$	mounting torque					Nm
$F_C$	mounting force with clip					N
$T_{stg}$	storage temperature		-55		150	°C
<b>Weight</b>				0.07		g

\*  $I_{rms}$  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 SMA (DO-214AC)**


Dim.	Millimeters		Inches	
	min	max	min	max
A	3.99	4.50	0.157	0.177
B	2.54	2.79	0.100	0.110
C	1.25	1.65	0.049	0.065
D	1.98	2.29	0.078	0.090
E	4.93	5.28	0.194	0.208
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