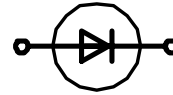


Schottky

High Performance Schottky Diode
 Low Loss and Soft Recovery
 Single Diode

$V_{RRM} = 100\text{ V}$
 $I_{FAV} = 1\text{ A}$
 $V_F = 0.65\text{ V}$

Part number (Marking on product)
DSA 1 I 100 SA (S1KA)



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

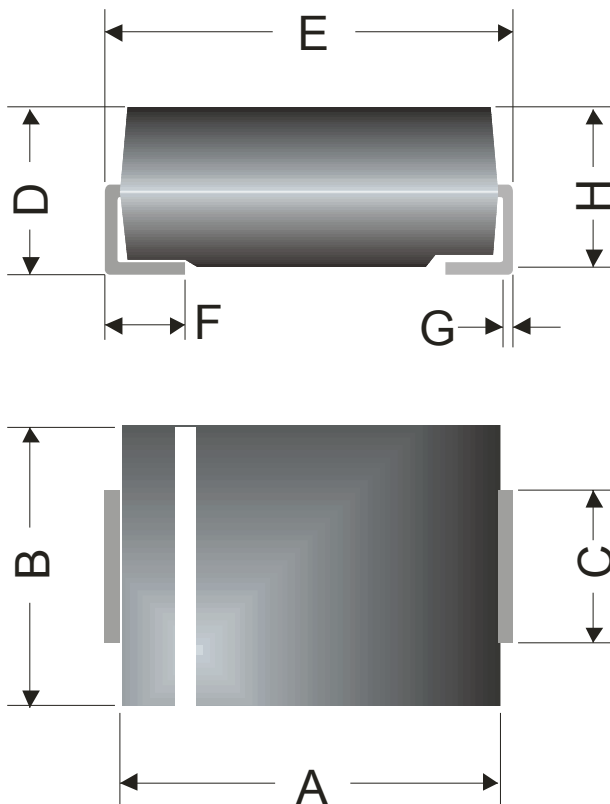
Symbol	Definition	Conditions	Ratings			Unit	
			min.	typ.	max.		
V_{RRM}	max. repetitive reverse voltage	$T_{VJ} = 25\text{ °C}$			100	V	
I_R	reverse current	$V_R = 100\text{ V}$			0.01	mA	
		$V_R = 100\text{ V}$			5	mA	
V_F	forward voltage	$I_F = 1\text{ A}$			0.79	V	
		$I_F = 2\text{ A}$			0.87	V	
		$I_F = 1\text{ A}$	$T_{VJ} = 125\text{ °C}$			0.65	V
		$I_F = 2\text{ A}$	$T_{VJ} = 125\text{ °C}$			0.75	V
I_{FAV}	average forward current	rectangular, $d = 0.5$			1	A	
V_{F0}	threshold voltage	} for power loss calculation only				V	
r_F	slope resistance		$T_L = 175\text{ °C}$			m Ω	
R_{thJL}	thermal resistance junction to lead*				40	K/W	
T_{VJ}	virtual junction temperature		-55		175	°C	
P_{tot}	total power dissipation	$T_L = 25\text{ °C}$			3	W	
I_{FSM}	max. forward surge current	$t_p = 10\text{ ms (50 Hz), sine}$			45	A	
C_j	junction capacitance	$V_R = 5\text{ V}; f = 1\text{ MHz}$			45	pF	
E_{AS}	non-repetitive avalanche energy	$I_{AS} = \text{A}; L = 100\text{ }\mu\text{H}$			tbd	mJ	
I_{AR}	repetitive avalanche current	$V_A = 1.5 \cdot V_R$ typ.; $f = 10\text{ kHz}$			tbd	A	

* mounted on 1 inch square PCB

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