

YJ Planar Schottky Barrier Diode Die Specification

100V 5A, 70mil, Schottky barrier diode die based on silicon planar process
Part No.: PSB070S100SS-280A

Main Products Characteristics

- Average forward current: $I_{F(AV)} = 5\text{ A}$
- Maximum operating junction temperature: $T_j = 175\text{ }^\circ\text{C}$
- ESD rating: >2KV, per IEC61000-4-2 (Contact Discharge)
- Top metal: Ag



Maximum Ratings

Parameter	Symbol	Rating
Repetitive peak reverse voltage	V_{RRM}	100 V
Average forward current	$I_{F(AV)}$	5 A
Non-repetitive peak surge current ($t_p = 8.3\text{ ms}$, halfwave, 1 cycle)	I_{FSM}	120 A
Storage temperature range	T_{stg}	-50 to +175 °C
Maximum operating junction temperature	T_j	175 °C

Static Electrical Characteristics ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	
		Spec	Typical
Reverse breakdown voltage $I_R = 1\text{ mA}$	V_{BR}	105 V	120V
Maximum forward voltage drop $I_F = 5\text{ A}$ Pulse Test: $t_p = 300\text{ }\mu\text{s}$, $\delta \leq 2\%$	V_F	0.80V	0.76V
Maximum reverse current $V_R = V_{RRM}$ Pulse Test: $t_p = 300\text{ }\mu\text{s}$, $\delta \leq 2\%$	I_R	5uA	0.3uA

Device Schematics and Outline Drawing

The top view shows a square die with a central 'Active Area' surrounded by three concentric rings: 'First Ring', 'Second Ring', and 'Third Ring'. A 'Top Metal Pad' is located at the top. The cross-section shows layers from top to bottom: 'Top Metal', 'Schottky Barrier', 'SiO2', 'Epi', 'Guard Ring', 'Back Metal', and 'Substrate'.

Die Thickness *	11 Mils
Die Size **	70 Mils
Top Metal Pad	65 Mils
Active Area	61 Mils
Top Metal	Ag
Back Metal	Ag

Note: 1 * : Also can offer device with 8 mils thickness
2 **: Cutting street width is around 1.5 mils

Important Notice

<p>Specification apply to die only. Actual performance may degrade when assembled.</p> <p>Yangjie Electronics does not guarantee device performance after assembly. All operating parameters must be validated for each customer application by customer's technical experts.</p> <p>Data sheet information is subjected to change without notice.</p>	<p>Recommended Storage Environment:</p> <p>Store in original container, in dessicated nitrogen, with no contamination.</p> <p>Shelf life for parts stored in above condition is 2 years.</p> <p>If the storage is done in normal atmosphere shelf life is reduced to 6 months.</p>
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