

YJ Planar Schottky Barrier Diode Die Specification

40V 3A, 50mil, Schottky barrier diode die based on silicon planar process
Part No.: PSB050L040SS-280E

Main Products Characteristics

- Average forward current: $I_{F(AV)} = 3\text{ A}$
- Maximum operating junction temperature: $T_j = 125\text{ °C}$
- ESD rating: >8KV, per IEC61000-4-2 (Contact Discharge)
- Top metal: Ag



Maximum Ratings

Parameter	Symbol	Rating
Repetitive peak reverse voltage	V_{RRM}	40 V
Average forward current	$I_{F(AV)}$	3 A
Non-repetitive peak surge current ($t_p = 8.3\text{ ms}$, halfwave, 1 cycle)	I_{FSM}	80 A
Storage temperature range	T_{stg}	-50 to +125 °C
Maximum operating junction temperature	T_j	125 °C

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

Parameter	Symbol	Value	
		Spec	Typical
Reverse breakdown voltage $I_R = 1\text{ mA}$	V_{BR}	45 V	52V
Maximum forward voltage drop $I_F = 3\text{ A}$ Pulse Test: $t_p = 300\text{ }\mu\text{s}$, $\delta \leq 2\%$	V_F	0.49V	0.47V
Maximum reverse current $V_R = V_{RRM}$ Pulse Test: $t_p = 300\text{ }\mu\text{s}$, $\delta \leq 2\%$	I_R	50uA	28uA

Device Schematics and Outline Drawing

The top view shows a square die with a central 'Active Area' surrounded by three concentric rings labeled '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 **	50 Mils
Top Metal Pad	46 Mils
Active Area	42 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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