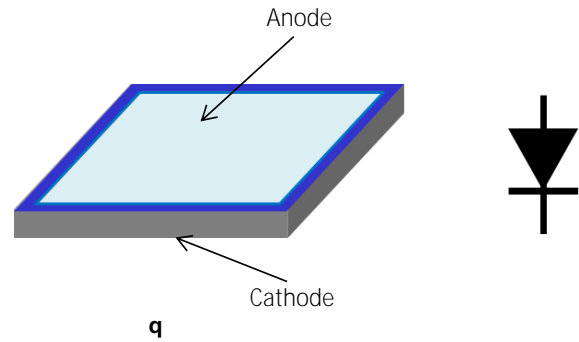


# YJ Planar Fast Recovery Diode Die Specification

600V 40A, Fast recovery diode die based on silicon planar process  
Part No.: FRD40A600AS-290A

## Main Products Characteristics

- Average forward current:  $I_F(A) = 40A$
- Maximum operating junction temperature:  $T_j = 150\text{ }^\circ\text{C}$
- Planar Construction
- Top metal: Al



## Maximum Ratings

Parameter	Symbol	Rating
Repetitive peak reverse voltage	$V_{RRM}$	600V
Average forward current	$I_{F(AV)}$	40A
Non-repetitive peak surge current ( $t_p = 10\text{ ms}$ , halfwave, 1 cycle)	$I_{FSM}$	300A
Storage temperature range	$T_{stg}$	-40 to +150 $^\circ\text{C}$
Maximum operating junction temperature	$T_j$	150 $^\circ\text{C}$

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

Parameter	Symbol	Value	
		Spec	Typical
Reverse breakdown voltage $I_R = 50\mu\text{A}$	$V_{BR}$	630V	680V
Maximum forward voltage drop $I_F = 20\text{A}$ , Pulse Test: $t_p = 380\text{ }\mu\text{s}$ , $\delta \leq 2\%$	$V_F$	1.45V	1.15V
Reverse Recovery Time $I_F=0.5\text{A}$ , $I_R=1\text{A}$ , $I_{rr}=0.25\text{A}$	$T_{rr}$	75ns	50ns
Maximum reverse current $V_R = V_{RRM}$ Pulse Test: $t_p = 10\text{ ms}$ , $\delta \leq 2\%$	$I_R$	2 $\mu\text{A}$	0.05 $\mu\text{A}$

## Device Schematics and Outline Drawing

Die Thickness	290 $\mu\text{m}$
Die Size *	4600 $\mu\text{m}$ X4600 $\mu\text{m}$
Top Metal Pad	3872 $\mu\text{m}$ X3872 $\mu\text{m}$
Active Area	3802 $\mu\text{m}$ X3802 $\mu\text{m}$
Top Metal	Al
Back Metal	Ag

Note: 1 \*: Cutting street width is around 40 $\mu\text{m}$

## Important Notice

<p>Specification apply to die only. Actual performance may degrade when assembled.</p> <p><b>Yangjie Electronics</b> 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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