

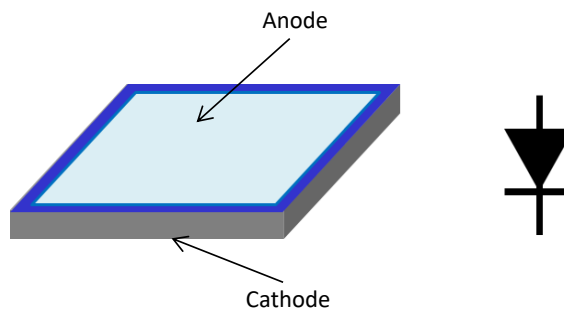
YJ Planar Fast Recovery Diode Die Specification

600V 10A, Fast recovery diode die based on silicon planar process

Part No.: FRD10A600AS-290A

Main Products Characteristics

- Average forward current: $I_F(AV) = 10A$
- 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 | $I_{F(AV)}$ | 10A |
| Non-repetitive peak surge current ($t_p = 8.3\text{ ms}$, halfwave, 1 cycle) | I_{FSM} | 100A |
| 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 $I_F = 10A$, Pulse Test: $t_p = 380\text{ }\mu\text{s}$, $\delta \leq 2\%$ | V_F | 1.6V | 1.45V |
| Reverse Recovery Time $I_F = 0.5A$, $I_R = 1A$, $I_{rr} = 0.25A$ | T_{rr} | 35ns | 28ns |
| Maximum reverse current $V_R = V_{RRM}$ Pulse Test: $t_p = 10\text{ ms}$, $\delta \leq 2\%$ | I_R | 2 μA | 0.02 μA |

Device Schematics and Outline Drawing

| | |
|---------------|-------------------------|
| Die Thickness | 290 μm |
| Die Size * | 2080x2080 μm |
| Top Metal Pad | 1352x1352 μm |
| Active Area | 1282x1282 μm |
| Top Metal | Al |
| Back Metal | Ag |

Note: 1 *: Cutting street width is around 40 μm

Important Notice

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|---|--|
| <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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