

SIDC03D60F6

Fast switching diode

Features:

- 600V Emitter Controlled technology 70 μm chip
- soft , fast switching
- low reverse recovery charge
- small temperature coefficient

This chip is used for:

 power modules and discrete devices



Applications:

• SMPS, resonant applications, drives

| Chip Type | V_{R} | I _F | Die Size | Package |
|-------------|---------|----------------|----------------------------|--------------|
| SIDC03D60F6 | 600V | 6A | 1.2 x 2.25 mm ² | sawn on foil |

Mechanical Parameters

| Mechanical Falanicies | | | | |
|---------------------------------|--|------|--|--|
| Raster size | 1.2 x 2.25 | | | |
| Area total | 2.7 | mm² | | |
| Anode pad size | 0.718 x 1.768 | | | |
| Thickness | 70 | μm | | |
| Wafer size | 150 | mm | | |
| Max. possible chips per wafer | 5650 | 5650 | | |
| assivation frontside Photoimide | | | | |
| Pad metal | 3200 nm AlSiCu | | | |
| Backside metal | e metal Ni Ag –system suitable for epoxy and soft solder die bondin | | | |
| Die bond | Electrically conductive glue or solder | | | |
| Wire bond | re bond Al, ≤250µm | | | |
| Reject ink dot size | Ø 0.65mm; max 1.2mm | | | |
| Recommended storage environment | Store in original container, in dry nitrogen, in dark environment, < 6 month at an ambient temperature of 23°C | | | |
| | | | | |



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Maximum Ratings

| Parameter | Symbol | Condition | Value | Unit |
|------------------------------------|------------------|---|---------|------|
| Repetitive peak reverse voltage | V_{RRM} | <i>T</i> _{vj} = 25 °C | 600 | V |
| Continuous forward current | I _F | <i>T</i> _{vj} < 150°C | 1) | ^ |
| Maximum repetitive forward current | I _{FRM} | <i>T</i> _{vj} < 150°C | 12 | A |
| Junction temperature range | T _{vj} | | -40+175 | °C |
| Operating junction temperature | T _{vj} | | -40+150 | °C |
| Dynamic ruggedness ²⁾ | P _{max} | $I_{\text{Fmax}} = 12A, V_{\text{Rmax}} = 600V,$ $T_{\text{vj}} \le 150^{\circ}\text{C}$ | tbd | kW |

¹⁾ depending on thermal properties of assembly

Static Characteristic (tested on wafer), T_{vj} = 25 °C

| Parameter | Symbol | Conditions | Value | | | Unit |
|---------------------------------|-----------------|-----------------------|-------|------|------|-------|
| | | | min. | typ. | max. | Oilit |
| Reverse leakage current | I_{R} | V _R =600V | | | 27 | μA |
| Cathode-Anode breakdown Voltage | V _{BR} | I _R =0.5mA | 600 | | | V |
| Diode forward voltage | V _F | I _F =6A | | 1.6 | | V |

Further Electrical Characteristics

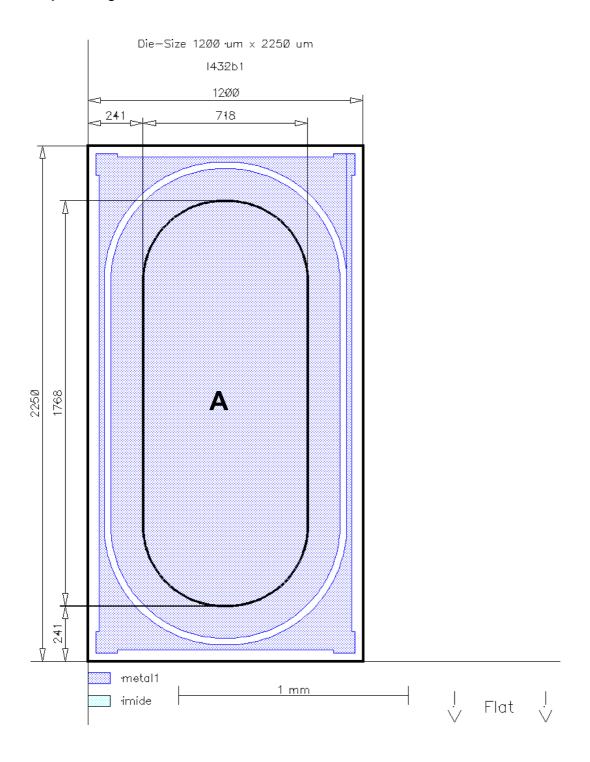
Switching characteristics and thermal properties are depending strongly on module design and mounting technology and can therefore not be specified for a bare die.

²⁾ not subject to production test - verified by design/characterisation





Chip Drawing



A: Anode pad



SIDC03D60F6

| Description |
|---|
| AQL 0,65 for visual inspection according to failure catalogue |
| Electrostatic Discharge Sensitive Device according to MIL-STD 883 |

Revision History

| Version | Subjects (major changes since last revision) | Date |
|---------|--|------|
| | | |
| | | |

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