

SEMICONDUCTOR

TECHNICAL DATA
DATASHEET 4298, Rev-

SILICON ULTRA-FAST RECOVERY EPITAXIAL RECTIFIER DIE

Applications:

- Switching Power Supply • Converters • Free-Wheeling Diodes • Polarity Protection Diode

Features:

- Glasspassivated Epitaxial Diode with Mesa Structure
- Soft Reverse Recovery at Low and High Temperature
- Low Forward Voltage Drop and Low Reverse Current
- Electrically and Mechanically Stable during and after Packaging

Maximum Ratings:

All ratings are at $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	600	V
Max. Output Current	I_O	50% duty cycle, rectangular wave form; $T_A = 25^\circ\text{C}$	30	A
Non-repetitive Peak Forward Current	$I_{FSM}^{(1)}$	$t = 8.3$ ms, sine waveform; $T_A = 25^\circ\text{C}$	200	A
Max. Junction Temperature	T_J	-	-65 to +175	$^\circ\text{C}$
Max. Storage Temperature	T_{stg}	-	-65 to +175	$^\circ\text{C}$
Reverse Recovery Time	t_{rr}	$I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RM}=0.25\text{A}$	30	nS

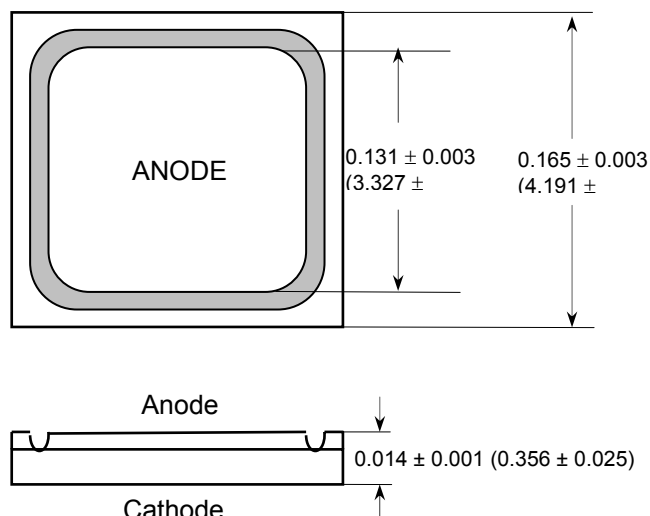
Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop	V_F	30A, pulse, $T_J = 25^\circ\text{C}$	2.6	V
Max. Reverse Current	I_{R1}	$V_R = V_{RWM}$, pulse ⁽²⁾ , $T_J = 25^\circ\text{C}$	50.0	μA
	I_{R2}	$V_R = V_{RWM}$, pulse ⁽²⁾ , $T_J = 150^\circ\text{C}$	500	μA

⁽¹⁾ in TO package

⁽²⁾ Pulse test: $t_p = 300$ μs , duty cycle $\leq 2.0\%$

Mechanical Dimensions: In Inches (mm)



Part number call out:

SD165UF600A30 for Al top – 25 kÅ minimum

SD165UF600B30 for Ti/Ni/Ag top – 30 kÅ minimum

Bottom side metallization: Ti/Ni/Ag – 30 kÅ minimum

Top – Anode, Bottom - Cathode

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