

$V_{RRM} = 3300 \text{ V}$

$I_F = 100 \text{ A}$



Fast-Diode Die

5SLX 12M3301

Die size: 13.6 x 13.6 mm

Doc. No. 5SYA1661-02 Feb. 05

- **Fast and soft reverse-recovery**
- **Low losses**
- **High SOA**
- **Passivation: SIPOS Nitride plus Polyimide**

Maximum rated values ¹⁾

Parameter	Symbol	Conditions	min	max	Unit
Repetitive peak reverse voltage	V_{RRM}			3300	V
Continuous forward current	I_F			100	A
Repetitive peak forward current	I_{FRM}	Limited by T_{vjmax}		200	A
Junction temperature	T_{vj}		-40	125	°C

¹⁾ Maximum rated values indicate limits beyond which damage to the device may occur per IEC 60747 - 2

Diode characteristic values ²⁾

Parameter	Symbol	Conditions	min	typ	max	Unit
Continuous forward voltage	V _F	I _F = 100 A	T _{vj} = 25 °C	2.0	2.3	2.7 V
			T _{vj} = 125 °C		2.35	V
Continuous reverse current	I _R	V _R = 3300 V	T _{vj} = 25 °C		5	μA
			T _{vj} = 125 °C		2.5	7 mA
Peak reverse recovery current	I _{rr}	I _F = 100 A, V _R = 1800 V, di/dt = 550 A/μs, L _σ = 1200 nH, Inductive load, Switch: 2x 5SMX12M3300	T _{vj} = 25 °C		115	A
			T _{vj} = 125 °C		140	A
Recovered charge	Q _{rr}		T _{vj} = 25 °C		65	μC
			T _{vj} = 125 °C		110	μC
Reverse recovery time	t _{rr}		T _{vj} = 25 °C		470	ns
			T _{vj} = 125 °C		800	ns
Reverse recovery energy	E _{rec}		T _{vj} = 25 °C		85	mJ
			T _{vi} = 125 °C		145	mJ

²⁾ Characteristic values according to IEC 60747 - 2

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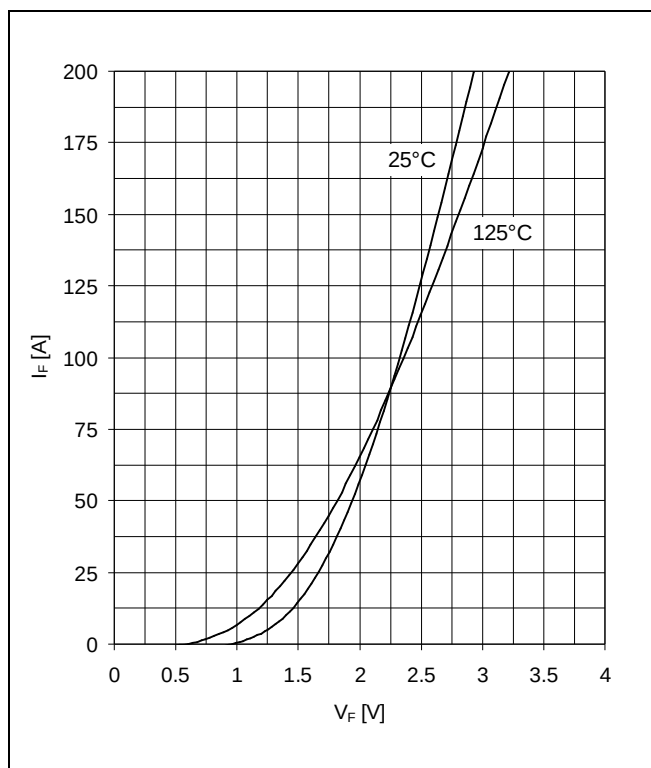


Fig. 1 Typical diode forward characteristics

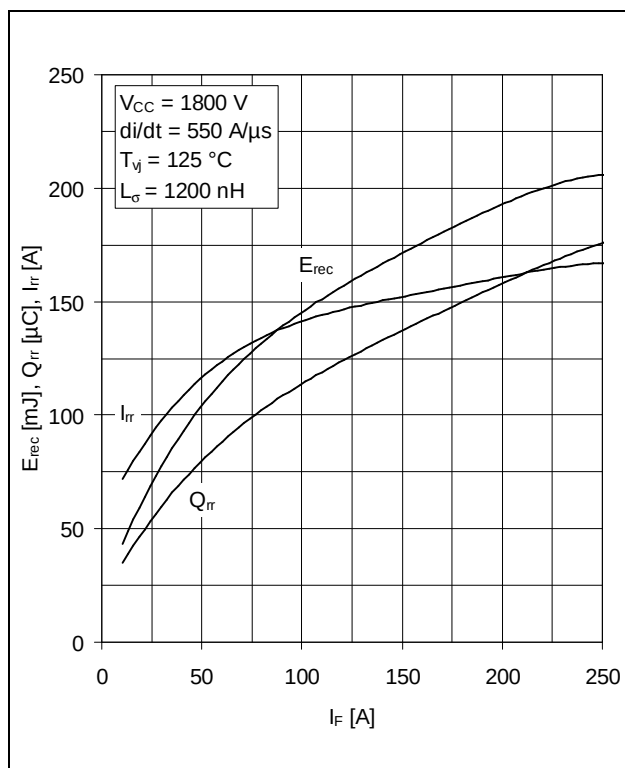


Fig. 2 Typical reverse recovery characteristics vs. forward current

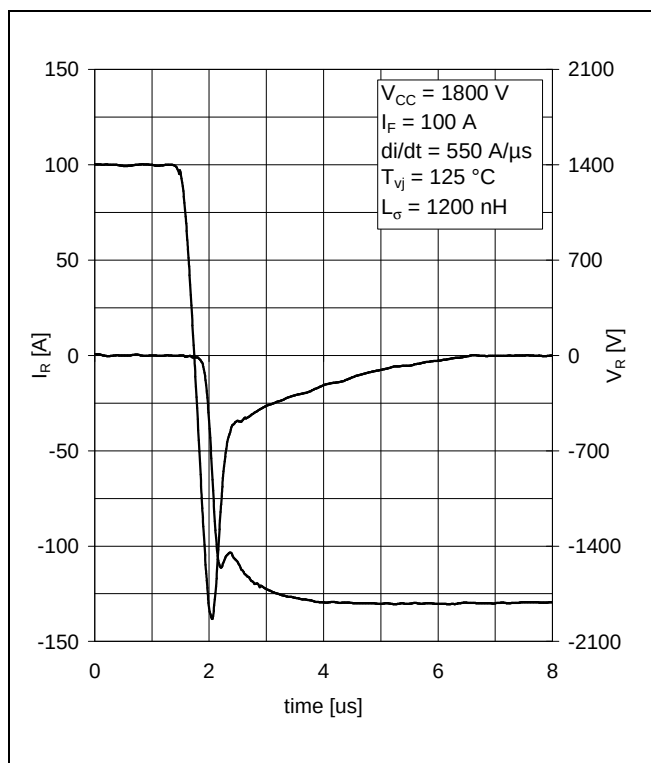


Fig. 3 Typical diode reverse recovery behaviour

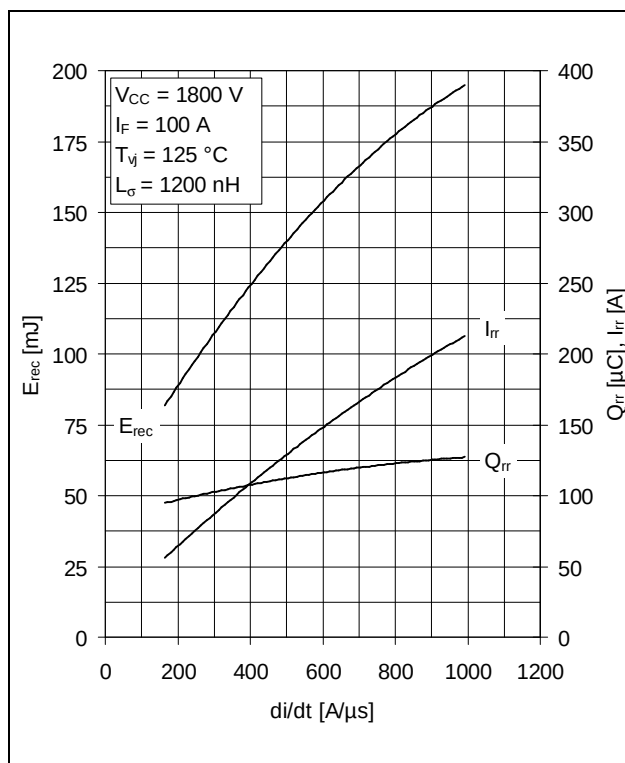


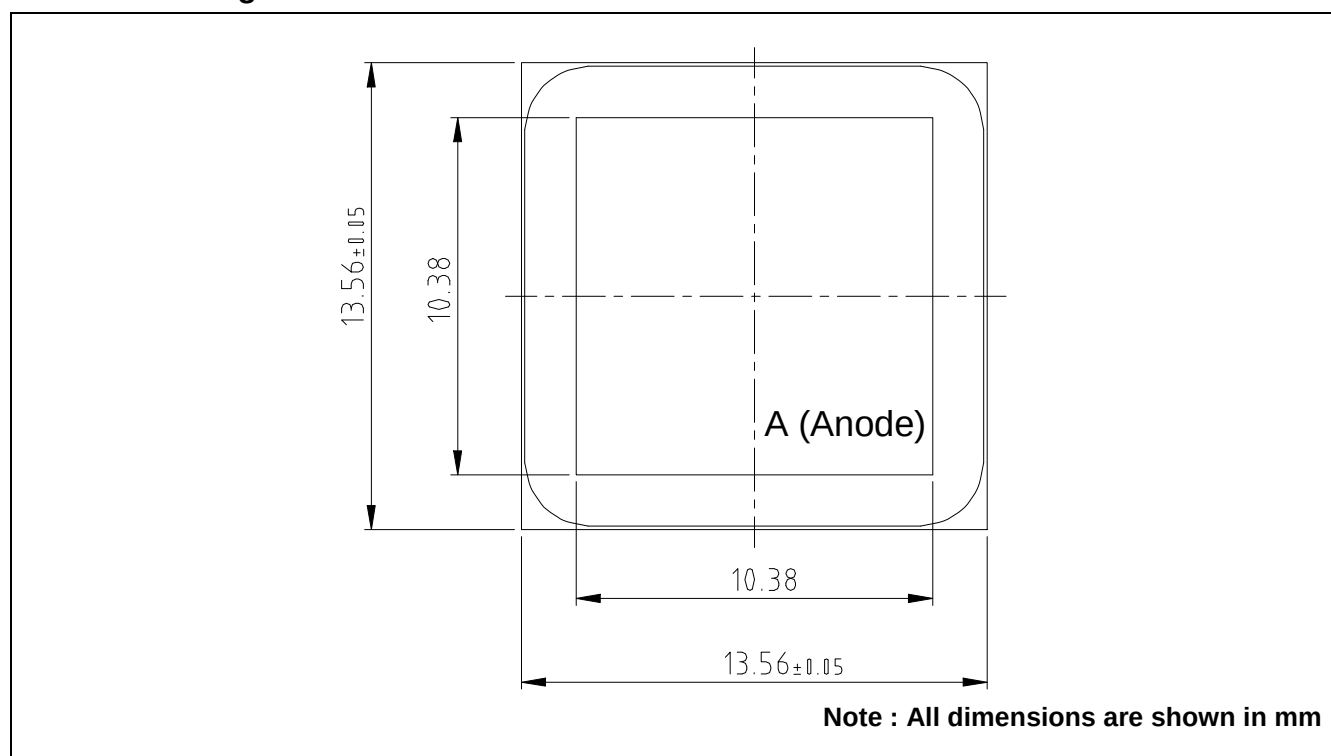
Fig. 4 Typical reverse recovery vs. di/dt

Mechanical properties

Parameter				Unit
Dimensions	Overall die	L x W	13.6 x 13.6	mm
	exposed front metal	L x W	10.38 x 10.38	mm
	thickness		385 ± 15	µm
Metallization ³⁾	front (A)	AlSi1	4	µm
	back (K)	Al / Ti / Ni / Ag	1.2	µm

³⁾ For assembly instructions refer to: IGBT and Diode chips from ABB Switzerland Ltd, Semiconductors, Doc. No. 5SYA 2033.

Outline Drawing



This product has been designed and qualified for Industrial Level.

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