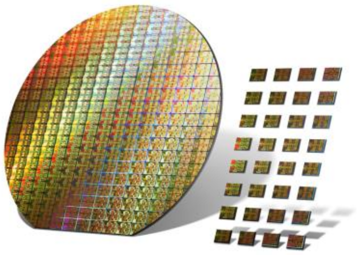
Fast switching diode chip

Chip Type	V_R	I_F	Die size
An75FRD12	**1200 V**	**75 A**	**6.5 x 6.5 mm^2**



FEATURES

- 1200 V technology 300 um chip
- Soft, fast switching
- Low reverse recovery charge

This chip is used for:

- Medium / High power Modules

GENERAL INFORMATION

Die size (including scribe line)	6.5 x 6.5 mm^2
Area total / active	42.25 / 25.80 mm^2
Anode pad size	See chip drawing
Scribe line width	160 um
Wafer size	150mm (6 inch)
Wafer thickness	300 um
Type and thickness of anode metal layer	Al Si 1% 4.0 um
Type and thickness of cathode metal layer (wafer back side)	Ti – Ni – Ag 1.0 um
Passivation frontside	Polyimide
Die bond	Electrically conductive glue or solder
Wire bond	Al, ≤ 500 um
Recommended Storage Environment	Store in original container, in dry nitrogen, < 6 month at an ambient temperature 23°C

MAXIMUM RATINGS:

Parameter	Legend	Value	Unit
Repetitive peak reverse voltage	V_{RRM}	1200	V
Continous forward current limited by T_{jmax}	I_F	75	A
Single pulse forward current	I_{FSM}	[1]	A
Maximum repetitive forward current limited by T_{jmax}	I_{FRM}	150	A
Operating junction and storage temperature	$T_{j,}$ T_{stg}	-55 … +150	^oC

STATIC CHARACTERISTICS (tested on wafer), T_j=25 ^oC:

Parameter	Legend	Condition	Value			Unit
			min.	typ.	max	
Reverse leakage current	I_R	V_R=1200 V	–	10	100	uA
Cathode-Anode breakdown Voltage	V_{BR}	I_R=1 mA	1200	–	–	V
Forward voltage drop	V_F	I_F=20 A	–	1.4	1.6	V
		I_F=75 A[2]	–	2.2[2]	2.5[2]	

DYNAMIC ELECTRICAL CHARACTERISTICS (tested at component):

Parameter	Legend	Condition	Value			Unit
			min.	typ.	max	
Reverse recovery time	t_{rr}	T_j=25 ºC I_F=50 A di/dt=400 A/us Inductive Load	–	160	–	ns
Peak recovery current	I_{RRM}		–	28	–	A
Reverse recovery charge	Q_{rr}		–	2.1	–	uC

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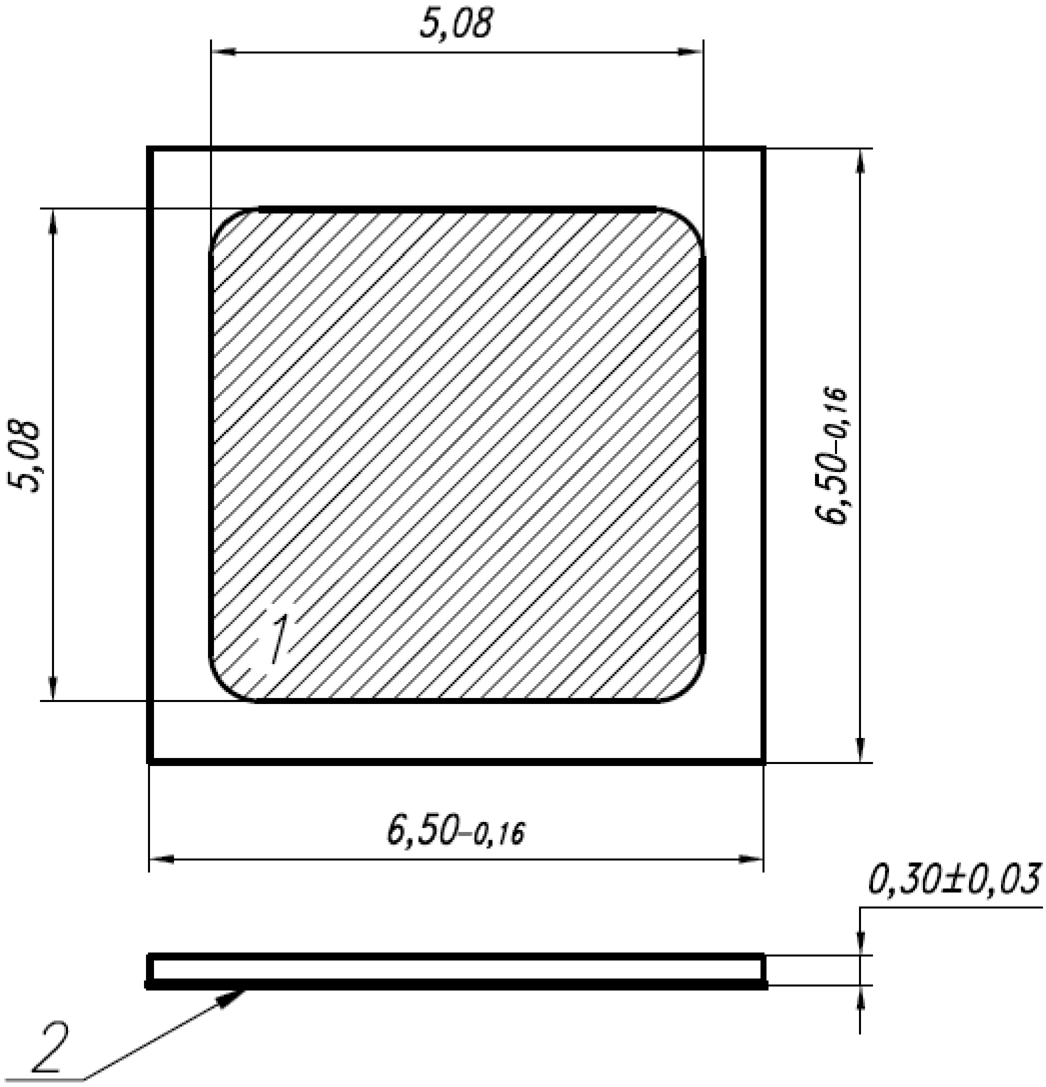
[1] Depending on wire bond configuration
[2] tested at component

CHIP DRAWING:



NOTE: PAD
ASSIGNMENTS
1 Dimensions are shown in mikrometers.

1 = ANODE
2 = CATHODE (BACK SIDE)