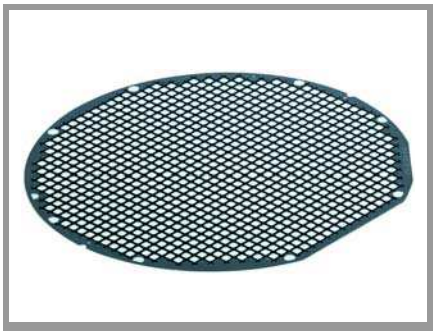
SKR079XP22B1T



DIODE

$I_{F(DC)}$ = 165 A [1)]
V_{RRM} = 2200 V
Size: 8.9 x 8.9 mm²

SKR079XP22B1T

Features

- New Power Enhancing Passivation technology
- High current density
- High surge current
- Enhanced environmental robustness

Typical Applications*

- uncontrolled rectifier bridges

Footnotes

[1)] Current rating is dependent on thermal characteristics (R_{th}) of module assembly. Refer to Fig. 1 for further information



SKR

Absolute Maximum Ratings

Symbol	Conditions		Values	Unit
V_{RRM}	T_j = 25 °C, I_R = 0.05 mA		2200	V
$I_{F(AV)}$	T_c = 85 °C, T_j = 150 °C, sin 180°, $R_{th(j-c)}$ = 0.32 K/W		125	A
I_{FSM}	10 ms sin 180°	T_j = 25 °C	1600	A
		T_j = 150 °C	1260	A
i^2t	T_j = 150 °C, 10 ms, sin 180°		7940	A^2s
T_{jmax}			150	°C

Electrical Characteristics

Symbol	Conditions		min.	typ.	max.	Unit
I_R	T_j = 25 °C, V_{RRM}				0.05	mA
	T_j = 150 °C, V_{RRM}				2.3	mA
V_F	T_j = 25 °C, I_F = 71 A			1.00	1.10	V
	T_j = 125 °C, I_F = 71 A			0.91	1.01	V
	T_j = 150 °C, I_F = 71 A			0.89	0.99	V
t_{rr}	T_j = 25 °C, 71 A, 100 V, 15 A/µs			6.8		µs
t_{rr}	T_j = 125 °C, 71 A, 100 V, 15 A/µs			7.9		µs
Q_{rr}	T_j = 25 °C, 71 A, 100 V, 15 A/µs			265		µC
Q_{rr}	T_j = 125 °C, 71 A, 100 V, 15 A/µs			320		µC

For power loss calculation only

Symbol	Conditions		min.	typ.	max.	Unit
$V_{(TO)}$	Approximation for: I_{F1} = 71 A I_{F2} = 213 A	T_j = 125 °C		0.78	0.83	V
$V_{(TO)}$		T_j = 150 °C		0.75	0.80	V
r_T		T_j = 125 °C		1.83	2.48	mΩ
r_T		T_j = 150 °C		1.93	2.62	mΩ

Thermal Characteristics

Symbol	Conditions	min.	typ.	max.	Unit
T_j		-40		150	°C
T_{stg}		-40		150	°C
T_{solder}	10 min.			250	°C
T_{solder}	5 min.			320	°C

Mechanical Characteristics

Symbol	Conditions	Values	Unit
Parameter			
Raster size		8.9 x 8.9	mm^2
Area total		79.21	mm^2
Anode		bondable (Al)	
Cathode		solderable (Ag/Ni)	
Wire bond		Al, diameter ≤ 500 µm	
Package		tray	
Chips / Package	1 tray pack (6 trays)	384	pcs

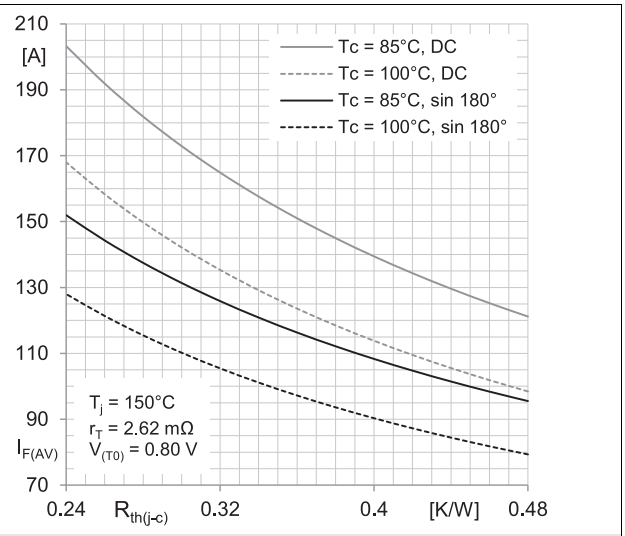


Fig. 1: Rated current vs. thermal resistance

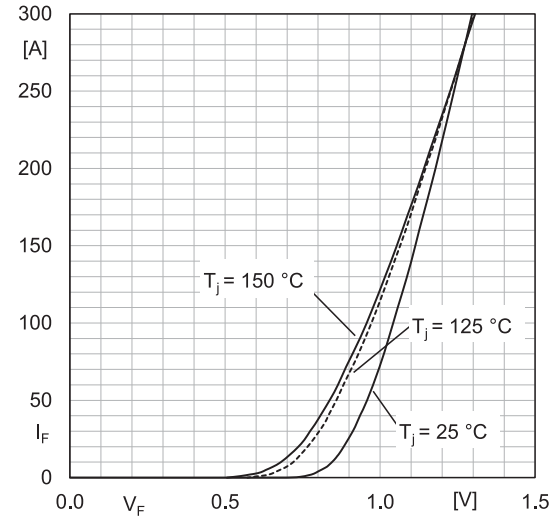
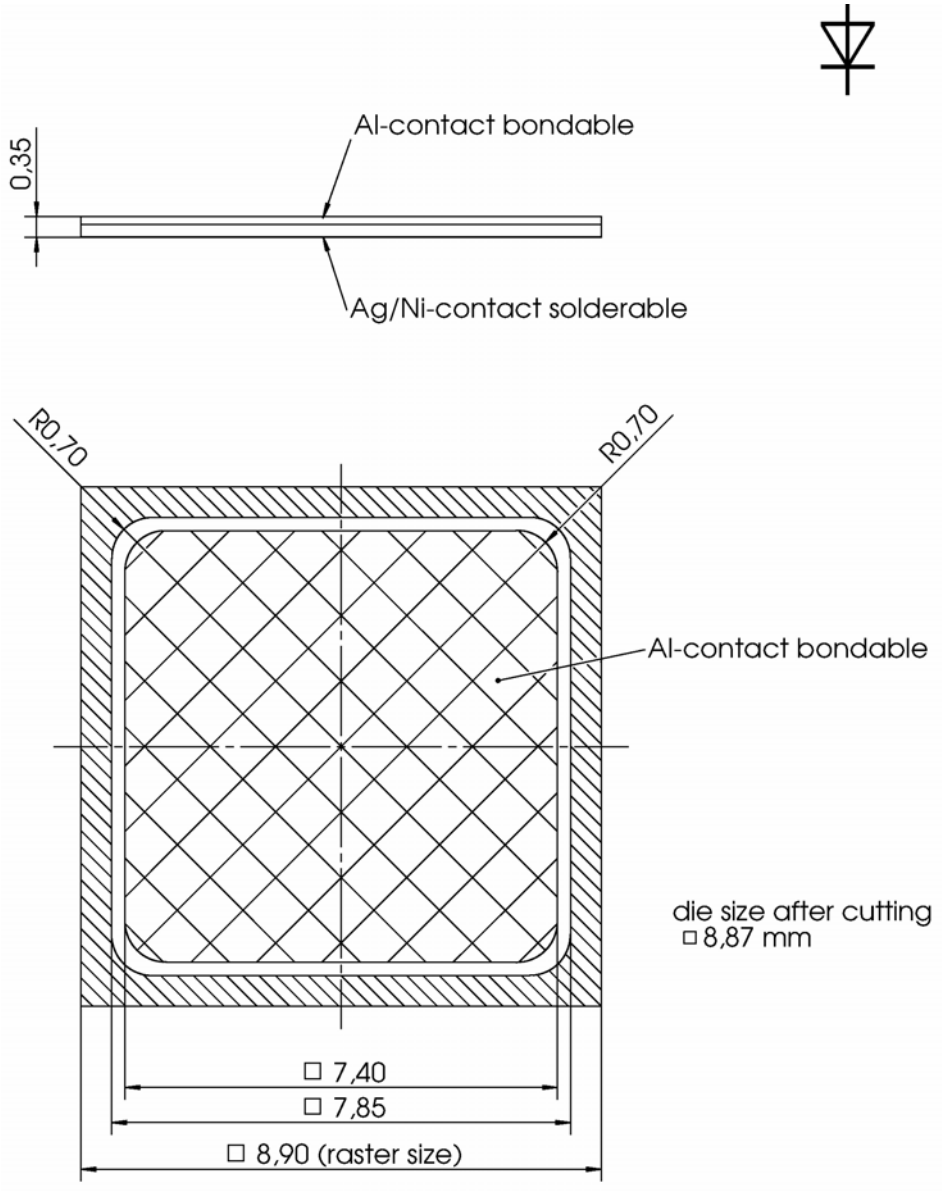


Fig. 2: Typical forward characteristic of diode



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This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, chapter IX.

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