

MSM075G700B

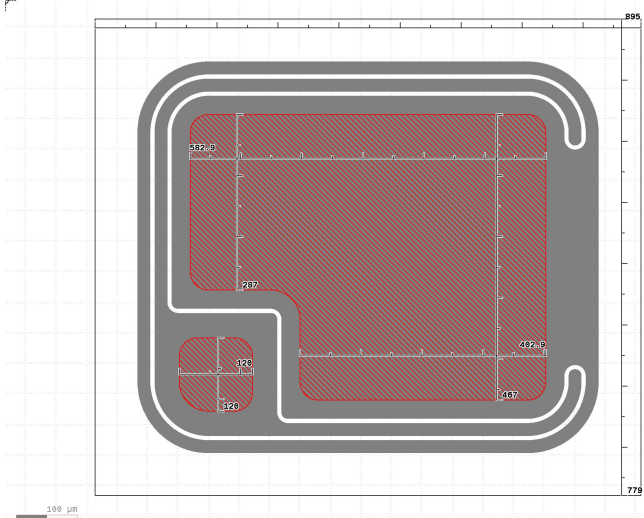
750 V/ 700 mΩ N-channel SiC MOSFET

Datasheet - preliminary data

Features

- High Blocking Voltage with Low $R_{DS(ON)}$
- Fast Switching Speed with Low Switching Loss
- Positive Temperature Coefficient Device
- 0V Turn-off Gate Voltage for Simple Gate Drive

Wafer Information

Chip drawing	Parameter	Value	Unit
	Wafer Size	150	mm
	Wafer Thickness	175	μm
	Die Size	895*779	μm*μm
	Scribe Line Size	60	μm
	Gate Pad Size	120*120	μm
	Source Pad Size	583*467	μm*μm
	Gross Die	19983	
	Front Metal	4	μm
	Back Metal	Ti/Ni/Ag	

1 Absolute Characteristics

($T_C = 25\text{ }^{\circ}\text{C}$ unless otherwise specified, TO220/TO252 Package Reference)

Parameter	Symbol	Values	Unit
Drain-Source Voltage	V_{DSS}	750	V
Gate Source Voltage (Recommended Operational Values)	$V_{GS, op}$	0 to 18	V
Gate Source Voltage (Absolute Maximum Values)	$V_{GS, max}$	-10 to 22	V
Operating and Storage Temperature	T_J, T_{stq}	-40 to 175	$^{\circ}\text{C}$

2 Electrical characteristics

($T_C = 25\text{ }^{\circ}\text{C}$ unless otherwise specified, TO220/TO252 Package Reference)

Symbol	Parameter	Values			Unit	Test Condition
		Min.	Typ.	Max.		
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	750	-	-	V	$V_{GS}=0V, I_D=100\mu A$
$V_{(GS)th}$	Gate Threshold Voltage	-	3.3	-	V	$V_{DS}=V_{GS}, I_D=1mA$
I_{DSS}	Zero Gate Voltage Drain Current	-	-	10	μA	$V_{DS}=750V, V_{GS}=0V, T_J=25^{\circ}\text{C}$
I_{GSS}	Gate-Source Leakage Current	-	-	100	nA	$V_{GS}=22V, V_{DS}=0V$
I_{GSS}	Gate-Source Leakage Current	-100	-	-	nA	$V_{GS}=-10V, V_{DS}=0V$
$R_{DS(on)}$	Drain-Source On-State Resistance	-	700	-	m Ω	$V_{GS}=18V, I_D=6A, T_J=25^{\circ}\text{C}$