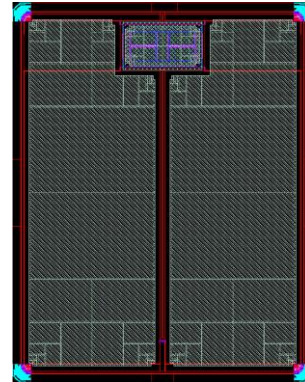


Description

Silicon Carbide (SiC) MOSFET use a completely new technology that provide superior switching performance and higher reliability compared to Silicon. In addition, the low ON resistance and compact chip size ensure low capacitance and gate charge. Consequently, system benefits include highest efficiency, faster operating frequency, increased power density, reduced EMI, and reduced system size.

Features

- High Speed Switching with Low Capacitances
- High Blocking Voltage with Low RDS(on)
- Simple to drive with Standard Gate Drive
- 100% avalanche tested
- Maximum junction temperature of 175°C
- ROHS Compliant



Application

- EV Charging
- DC-AC Inverters
- High Voltage DC/DC Converters
- Switch Mode Power Supplies
- Power Factor Correction Modules
- Motor Drives

Part Number	Die Size
ASC30N1200MB	3.030 × 2.546

Absolute Maximum Ratings(Tc=25°C)

Symbol	Parameter	Value	Unit
V _{DS}	Drain-Source Voltage	1200	V
I _D	Drain Current(continuous)at Tc=25°C	32	A
I _D	Drain Current(continuous)at Tc=100°C	23	A
I _{DM}	Drain Current (pulsed)	80	A
V _{GS}	Gate-Source Voltage	-10/+22	V
P _D	Power Dissipation Tc = 25°C	145	W
T _J , T _{stg}	Junction and Storage Temperature Range	-55 to +150	°C

Electrical Characteristics(T_J = 25°C unless otherwise specified)
Typical Performance-Static

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
BV _{DS}	Drain-source Breakdown Voltage	I _D =250uA, V _{GS} =0V	1200			V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =1200V, V _{GS} =0V, T _J =25°C			100	uA
I _{GSS}	Gate-body Leakage Current	V _{DS} =0V ; V _{GS} =-10 to 20V			250	nA
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} , I _D =5mA	2	3	4	V
V _{GS(on)}	Recommended turn-on Voltage	Static		20		V
V _{GS(off)}	Recommended turn-off Voltage			-5		V
R _{DS(on)}	Static Drain-source On Resistance	V _{GS} =20V, I _D =20A		80	100	mΩ
		V _{GS} =20V, I _D =20A T _J =150°C		122		mΩ

Mechanical Parameters

Parameter	Typical Value	Unit
Die Dimensions(L×W) with scribe line	3.03×2.546	mm
Gate Pad Dimensions(L×W)	0.38×0.55	mm
Source Pad Metal Dimensions (LxW) Each	0.88×1.736×2	mm
Scribe Line	80	um
Die Thickness	175±25	um
Top Side Source metallization (Al)	4	um
Top Side Gate metallization (Al)	4	um
Bottom Drain metallization (Ti/Ni/Ag)	0.2/0.3/2	um

Chip Dimensions
