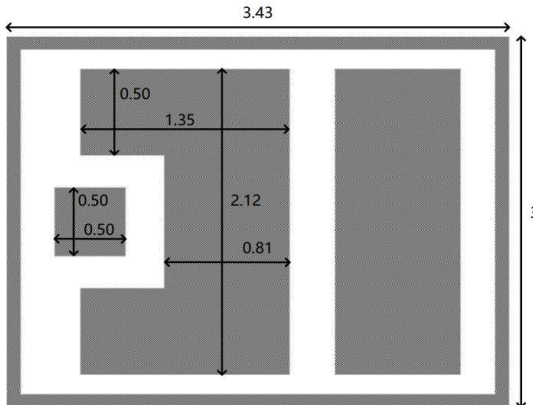


Silicon Carbide Metal-Oxide-Semiconductor Field-Effect Transistor

1200V N-Channel SiC MOSFET

Bonding Pad Information	Chip Information	
 <p>unit: mm</p>	Die Size (with Scribe Line)	3,430μm x 3,000μm
	Gate Pad Size	500μm x 500μm
	Source Pad Size	Full metalized surface of source region
	Scribe Line Size	80μm
	Wafer Size	6inches
	Wafer Thickness	175±15μm
	Metallization	Front Side: Al/Cu : 4μm Back Side: Ti/Ni/Ag : 2.5μm
	Recommended Wire Bonding	
	Gate Pad	5.0 mil x 1 (Al wire)
	Source Pad	20 mil x 2 (Al wire)
	Gross Die	1,498ea

Maximum Ratings (TA=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V _{DSS}	1200	V
Gate-Source Voltage	V _{GS,op}	-5/+20	V
Drain Current-Continuous @ T _C =25°C	I _D	47	A
Drain Current-Pulsed	I _{DM}	70	A
Operating Junction Temperature Range	T _J	-55 to +175	°C

Electrical Characteristics (TA=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
OFF CHARACTERISTIC						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D =100uA	1200	-	-	V
Drain-Source Leakage Current	I _{DSS}	V _{GS} =0V, V _{DS} =1200V	-	1	100	uA
Gate-Source Leakage Current	I _{GSS}	V _{GS} =20V, V _{DS} =0V	-	10	250	nA
ON CHARACTERISTIC						
Gate Threshold Voltage	V _{GS(TH)}	V _{GS} =V _{DS} , I _D =5mA	1.8	2.8	3.8	V
Static Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} =20V, I _D =20A	-	70	95	mΩ
		V _{GS} =18V, I _D =20A	-	82	107	
DYNAMIC CHARACTERISTICS						
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =1000V, f=1MHz, V _{AC} =25mV	-	1450	-	pF
Output Capacitance	C _{oss}		-	66	-	
Reverse Transfer Capacitance	C _{rss}		-	13	-	
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
Drain-Source Diode Forward Voltage	V _{SD}	V _{GS} =-5V, I _S =10A	-	4.9	-	V

NOTE:

- The data tested by pulsed, pulse with ≤ 300us, duty cycle ≤ 2%.
- R_{DS(ON)} calculated by TO-247-3L package type.