

X0004

N-Channel Enhancement Mode MOSFET

20V(VDS) / ± 12 V(VGS) / 90A(ID)

Rev1.5



Wafer Specification

1. Order Information

Part No.	Description	Gross die / per 8" wafer
X0004	20V(V_{DS}) / $\pm 12V(V_{GS})$ / 90A(I_D) N-Channel Enhancement Mode MOSFET	10,534

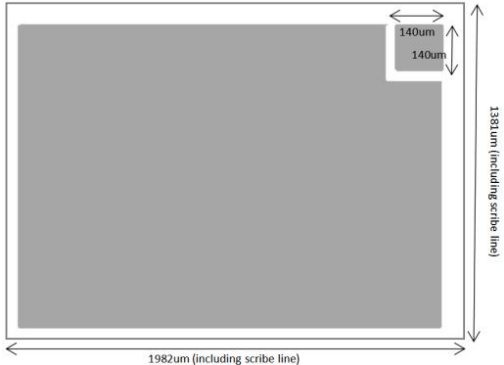
2. Mechanical Data

Nominal Back Metal Composition, Thickness	Ti-Ni-Ag (13kÅ°)
Nominal Front Metal Composition, Thickness	AlCu (4µm)
Wafer Diameter	200mm, with 010 notch
Wafer Thickness	150µm $\pm$ 10µm
Scribe Line Width	60µm
Passivation	SRO+SiN

3. Key Electrical Characteristics of Die (at $T_J = 25^\circ\text{C}$, unless otherwise specified)

Parameter	Description	Min.	Typ.	Max.	Unit	Test Conditions
$V_{(BR)DSS}$	Drain-to-Source Breakdown Voltage	20			V	$V_{GS}=0V$, $I_D=250\mu A$
$I_{D(Device Ref)}$	Continuous Drain Current			90	A	$T_J=25^\circ\text{C}$
$R_{DS(on)}(CP)$	Static Drain-to-Source On-Resistance		2.7	8	mΩ	$V_{GS}=4.5V$, $I_D=1A$
			3.7	12	mΩ	$V_{GS}=2.5V$, $I_D=1A$
$R_{DS(on)}(FT)$	Static Drain-to-Source On-Resistance		2.8	3.6	mΩ	$V_{GS}=4.5V$, $I_D=30A$
			3.8	4.9	mΩ	$V_{GS}=2.5V$, $I_D=20A$
$V_{GS(th)}$	Gate Threshold Voltage	0.5	0.85	1.1	V	$V_{DS}=V_{GS}$, $I_D=250\mu A$
I_{DSS}	Drain-to-Source Leakage Current		0	1	µA	$V_{DS}=20V$, $V_{GS}=0V$
I_{GSS}	Gate-to-Source Leakage Current		0	± 100	nA	$V_{GS}=\pm 12V$, $V_{DS}=0V$
T_J, T_{STG}	Operating and Storage Temperature	-55°C to 150°C Max				

4. Die Outline & FT Data

	Die Size: 1982µm × 1381µm (including scribe line)
	Gate: 140µm × 140µm
	For TO-252 package Suggest Bonding wire: Gate: 1 × 1.7 mil Cu Source: 2 × 15 mil Al