

X0058

N-Channel Enhancement Mode MOSFET

20V(VDS) / ± 12 V(VGS) / 40A(ID)

Rev0.5



Wafer Specification

1. Order Information

Part No.	Description	Gross die / per 8" wafer
X0058	20V(V_{DS}) / $\pm 12V(V_{GS})$ / 40A(I_D) N-Channel Enhancement Mode MOSFET	30,000

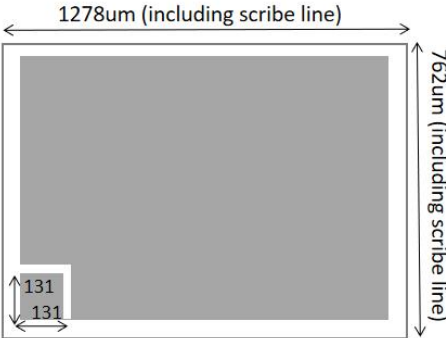
2. Mechanical Data

Nominal Back Metal Composition, Thickness	Ti-Ni-Ag (13kÅ°)
Nominal Front Metal Composition, Thickness	AlCu (4μm)
Wafer Diameter	200mm, with 010 notch
Wafer Thickness	150±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			40	A	$T_J=25^\circ\text{C}$
$R_{DS(on)}(CP)$	Static Drain-to-Source On-Resistance		5.5	12	mΩ	$V_{GS}=4.5V$, $I_D=1A$
			7.5	16	mΩ	$V_{GS}=2.5V$, $I_D=1A$
$R_{DS(on)}(FT)$	Static Drain-to-Source On-Resistance		6.5	8.1	mΩ	$V_{GS}=4.5V$, $I_D=20A$
			8.5	10.6	mΩ	$V_{GS}=2.5V$, $I_D=10A$
$V_{GS(th)}$	Gate Threshold Voltage	0.5	0.8	1.1	V	$V_{DS}=V_{GS}$, $I_D=250\mu A$
I_{DSS}	Drain-to-Source Leakage Current			1	μA	$V_{DS}=20V$, $V_{GS}=0V$
I_{GSS}	Gate-to-Source Leakage Current			±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

	Die Size: 1278μm × 762μm (including scribe line)
	Gate: 131μm × 131μm
	For TO-252 package Suggest Bonding wire: Gate: 1 × 1.0 mil Cu Source: 2 × 15 mil Al