

X0013

N-Channel Enhancement Mode MOSFET

20V(VDS) / ± 12 V(VGS) / 4A(ID)

Rev1.5



Wafer Specification

1. Order Information

Part No.	Description	Gross die / per 8" wafer
X0013	20V(V_{DS}) / $\pm 12V(V_{GS})$ / 4A(I_D) N-Channel Enhancement Mode MOSFET	80,390

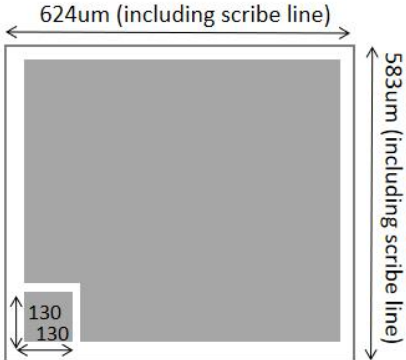
2. Mechanical Data

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±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			4	A	$T_J=25^\circ\text{C}$
$R_{DS(on)}(CP)$	Static Drain-to-Source On-Resistance		18	22	mΩ	$V_{GS}=4.5V$, $I_D=1A$
			22	32	mΩ	$V_{GS}=2.5V$, $I_D=1A$
$R_{DS(on)}(FT)$	Static Drain-to-Source On-Resistance		23	27	mΩ	$V_{GS}=4.5V$, $I_D=4A$
			27	35	mΩ	$V_{GS}=2.5V$, $I_D=2A$
$V_{GS(th)}$	Gate Threshold Voltage	0.5	0.7	1.0	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: 624µm × 583µm (including scribe line)
	Gate: 130µm × 130µm
	For SOT23-3 package Suggest Bonding wire: Gate: 1 × 1.0 mil Cu Source: 5 × 1.65 mil Cu