

X0039

N-Channel Enhancement Mode MOSFET

20V(VDS) / ± 12 V(VGS) / 50A(ID)

Rev0.2

WANGSEMI



Wafer Specification

1. Order Information

Part No.	Description	Gross die / per 8" wafer
X0039	20V(V_{DS}) / $\pm 12V(V_{GS})$ / 50A(I_D) N-Channel Enhancement Mode MOSFET	23,798

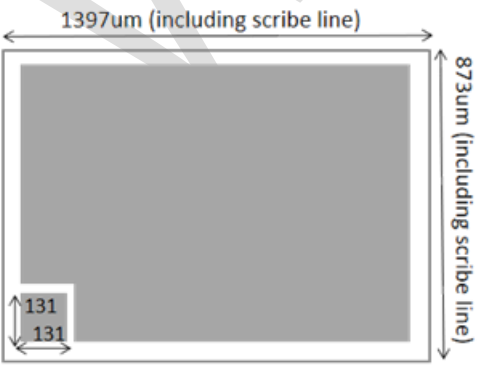
2. Mechanical Data

Nominal Back Metal Composition, Thickness	Ti-Ni-Ag (1kÅ-2kÅ-10kÅ))
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	$V_{GS}=0V$, $I_D=250\mu A$
$I_{D(Devic\ Ref)}$	Continuous Drain Current			50	A	$T_j=25^\circ\text{C}$
$R_{DS(on)}(CP)$	Static Drain-to-Source On-Resistance		6	7.9	mΩ	$V_{GS}=4.5V$, $I_D=1A$
			8	10.5	mΩ	$V_{GS}=2.5V$, $I_D=1A$
$R_{DS(on)}(FT)$	Static Drain-to-Source On-Resistance		6.2	8.1	mΩ	$V_{GS}=4.5V$, $I_D=25A$
			8.2	10.7	mΩ	$V_{GS}=2.5V$, $I_D=10A$
$V_{GS(th)}$	Gate Threshold Voltage	0.5	0.75	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: 1397μm × 873μm (including scribe line)
	Gate: 131μm × 131μm
	For TO-252 package Suggest Bonding wire: Gate: 1*42μmCu Source: 1*15milAL Al 