

X0104

N-Channel Enhancement Mode MOSFET

60V(VDS) / ± 20 V(VGS) / 40A(ID)

Rev0.1



Wafer Specification

1. Order Information

Part No.	Description	Gross die / per 8" wafer
X0104	60V(V_{DS}) / $\pm 20V(V_{GS})$ / 40A(I_D) N-Channel Enhancement Mode MOSFET	12,000

2. Mechanical Data

Nominal Back Metal Composition, Thickness	Ti-Ni-Ag (13kA°)
Nominal Front Metal Composition, Thickness	AlCu (4 μ m)
Wafer Diameter	200mm, with 010 notch
Wafer Thickness	150 $\pm$ 10 μ m
Scribe Line Width	60 μ m
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	60			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		13.5	15	m Ω	$V_{GS}=10V$, $I_D=1A$
			15.5	20	m Ω	$V_{GS}=4.5V$, $I_D=1A$
$R_{DS(on)}(FT)$	Static Drain-to-Source On-Resistance		14	16	m Ω	$V_{GS}=10V$, $I_D=30A$
			16	21	m Ω	$V_{GS}=4.5V$, $I_D=20A$
$V_{GS(th)}$	Gate Threshold Voltage	1.2	1.5	2.0	V	$V_{DS}=V_{GS}$, $I_D=250\mu A$
I_{DSS}	Drain-to-Source Leakage Current			1	μA	$V_{DS}=60V$, $V_{GS}=0V$
I_{GSS}	Gate-to-Source Leakage Current			± 100	nA	$V_{GS}=\pm 20V$, $V_{DS}=0V$
T_J , T_{STG}	Operating and Storage Temperature	-55 $^\circ\text{C}$ to 150 $^\circ\text{C}$ Max				

4. Die Outline

	Die Size: 1851 μ m $\times$ 1291 μ m (including scribe line)
	Gate: 140 μ m $\times$ 140 μ m
	For TO-252 package Suggest Bonding wire: Gate: 1 $\times$ 1.65 mil Cu Source: 2 $\times$ 15 mil Al