

XG0046(XG3001)

N-Channel Enhancement Mode SGT MOSFET

30V(VDS) / ± 20 V(VGS) / 178A(ID)

Rev0.3



Wafer Specification

1. Order Information

Part No.	Description	Gross die / per 8" wafer
XG0046(XG0031)	30V(V_{DS}) / $\pm 20V(V_{GS})$/ 178A(I_D) N-Channel Enhancement Mode SGT MOSFET	6,500

2. Physical Characteristics

	Die Size: 2400 μ m $\times$ 1800 μ m (including scribe line)
	Gate: 300 μ m $\times$ 300 μ m
	For PDFN5X6-8L package Suggest Bonding wire: Gate: Cu Clip Source: 0.203mm Cu Clip

3. Mechanical Data

Nominal Back Metal Composition, Thickness	Ti-Ni-Ag (13kA°)
Nominal Front Metal Composition, Thickness	NiAu (3.05 μ m)
Wafer Diameter	200mm, with 010 notch
Wafer Thickness	125 μ m
Scribe Line Width	60 μ m

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

Parameter	Description	Min	Typ.	Max.	Unit	Test Conditions
V _{(BR)DSS}	Drain-to-Source Breakdown Voltage	30			V	V _{GS} =0V, I _D =250μA
I _{D(Device Ref)}	Continuous Drain Current			178	A	T _J =25°C
R _{DS(on)} (FT)	Static Drain-to-Source On-Resistance		1.4	2.0	mΩ	V _{GS} =10V, I _D =20A
V _{GS(th)}	Gate Threshold Voltage	1.4	1.8	2.3	V	V _{DS} =V _{GS} , I _D =250μA
I _{DSS}	Drain-to-Source Leakage Current			1	μA	V _{DS} =30V, V _{GS} =0V
I _{GSS}	Gate-to-Source Leakage Current			±100	nA	V _{GS} =±20V, V _{DS} =0V
E _{AS}	Single Pulsed Avalanche Energy			100	mJ	L=0.5mH, V _{DD} =15V
R _g	Gate Poly Resistance		0.95		Ω	V _{DS} =0V, V _{GS} =0,f=1MHZ
C _{iss}	Input Capacitance		3150		pF	V _{DS} =15V, V _{GS} =0, f=1MHZ
C _{oss}	Output Capacitance		2550		pF	
C _{rss}	Reverse Transfer Capacitance		150		pF	
T _J , T _{STG}	Operating and Storage Temperature	-55°C to 150°C Max				