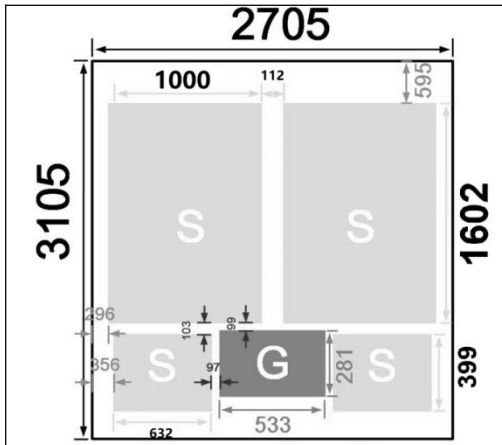
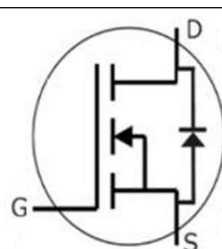


Physical Characteristics

	Die size: 2705 μm x 3105 μm (without scribe line) Gate pad: 533 μm x 281 μm Gross die / per 6" wafer = 1720 pcs	
	Main characteristics: $V_{DS} = 650\text{V}$ $I_D(T_C=25^\circ\text{C}) = 55\text{A}$ $R_{DS(on)MAX} = 58\text{m}\Omega@20\text{V}$	

Mechanical Data

Parameter	Parameter
Nominal Back Metal Composition, Thickness	Ti- Ni - Ag
Nominal Front Metal Composition, Thickness	Al(4 μm)
Wafer Diameter	150mm
Wafer Thickness	175 $\mu\text{m} \pm 10\mu\text{m}$
Scribe line width	80 μm

Absolute Maximum Ratings ($T_C=25^\circ\text{C}$, unless otherwise specified)

Parameter	Symbol	Test Condition	Value	Unit
Drain-Source Voltage	V_{DS}	$V_{GS} = 0\text{V}, I_D = 100\mu\text{A}$	650	V
Gate-Source Voltage	V_{GSmax}	AC ($f > 1\text{Hz}$)	-10/+25	V
Gate-Source Voltage	V_{GSOP}	Static	-4/+20	V
Continuous Drain Current	I_D	$V_{GS} = 20\text{V}, T_C=25^\circ\text{C}$	55	A
	I_D	$V_{GS} = 20\text{V}, T_C=100^\circ\text{C}$	39	
Pulsed Drain Current	$I_{D,pulse}$	Pulse with t_p limited by T_{jmax} at 1ms Pulse with t_p limited by T_{jmax} at 100 μs	95 231	A
Junction Temperature	T_J		-55~ +175	$^\circ\text{C}$
Storage Temperature	T_{STG}		-55~ +175	$^\circ\text{C}$

Note 1: Assumes a $R_{th(jc)}$ will be less than 0.72 K/W.

Electrical characteristics (T_j=25°C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 100μA	650			V
Zero gate voltage drain current	I _{DSS}	V _{DS} = 650V, V _{GS} = 0V		1	50	μA
Gate-Source leakage current	I _{GSS}	V _{GS} = 20V, V _{DS} = 0V			250	nA
Gate threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 5mA		2.7		V
		V _{DS} = V _{GS} , I _D = 5mA, T _j = 175°C		1.8		
Drain-source on-resistance	R _{DS(on)}	V _{GS} = 20V, I _D = 20A		45	58	mΩ
		V _{GS} = 20V, I _D = 20A, T _j = 175°C		60		
Transconductance	g _{fs}	V _{DS} = 20V, I _D = 20A		18		S
		V _{DS} = 20V, I _D = 20A, T _j = 175°C		11		
Dynamic characteristics						
Input Capacitance	C _{iss}	V _{DS} = 600V, V _{GS} = 0V, f = 1MHz V _{AC} = 25mV		1410		pF
Output Capacitance	C _{oss}			119		
Reverse Transfer Capacitance	C _{rss}			4		
Total Gate Charge	Q _g	V _{DS} = 400V, I _D = 20A V _{GS} = -4V/20V		66.2		nC
Gate-Source Charge	Q _{gs}			16.4		
Gate-Drain Charge	Q _{gd}			16.5		
Internal Gate Resistance	R _{G(int)}	f = 1 MHz, V _{AC} = 25mV		1.8		Ω
Source-Drain Diode characteristics						
Diode Forward Current	I _S	V _{GS} = -4V, T _C = 25°C		46		A
Diode Forward voltage	V _{SD}	V _{GS} = -4V, I _{SD} = 8.8A		3.7		V
		V _{GS} = -4V, I _{SD} = 8.8A, T _J = 175°C		3.1		V
Diode Pulse Current	I _{S,pulse}	V _{GS} = -4V, pulse width t _p limited by T _{jmax}		95		A