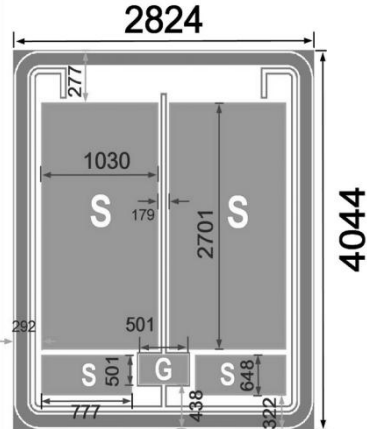
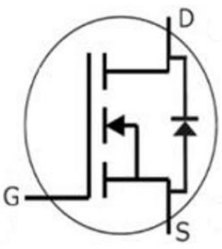


### Physical Characteristics

	Die size: 2824 $\mu\text{m}$ x 4044 $\mu\text{m}$ (without scribe line) Gate pad: 501 $\mu\text{m}$ x 501 $\mu\text{m}$ Gross die / per 6" wafer = 1270 pcs	
	Main characteristics: $V_{DS} = 1200\text{V}$ $I_D(T_C=25^\circ\text{C}) = 68\text{A}$ $R_{DS(on)MAX} = 48\text{m}\Omega@18\text{V}$	

### Mechanical Data

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

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

Parameter	Symbol	Test Condition	Value	Unit
Drain-Source Voltage	$V_{DSmax}$	$V_{GS} = 0\text{V}, I_D = 100\mu\text{A}$	1200	V
Gate-Source Voltage	$V_{GSmax}$	AC ( $f > 1\text{Hz}$ )	-10/+25	V
Gate-Source Voltage	$V_{GSOP}$	Static	-4/+18	V
Continuous Drain Current	$I_D$	$V_{GS}=18\text{V}, T_C=25^\circ\text{C}$	68	A
	$I_D$	$V_{GS}=18\text{V}, T_C=100^\circ\text{C}$	48	A
Pulsed Drain Current	$I_{D,pulse}$	Pulse with $t_p$ limited by $T_{jmax}$ at 1 ms Pulse with $t_p$ limited by $T_{jmax}$ at 100 $\mu\text{s}$	133 319	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 0.44 K/W.

### Electrical characteristics (T<sub>j</sub>=25°C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
<b>Static Characteristics</b>						
Drain-source breakdown voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = 100μA	1200			V
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> = 1200V, V <sub>GS</sub> = 0V		1	50	μA
Gate-Source leakage current	I <sub>GSS</sub>	V <sub>GS</sub> = 18V, V <sub>DS</sub> = 0V			250	nA
Gate threshold voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 9.5mA	1.8	2.9	3.6	V
		V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 9.5mA, T <sub>J</sub> = 175°C		2.0		
Drain-source on-resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> = 18V, I <sub>D</sub> = 40A		35	48	mΩ
		V <sub>GS</sub> = 20V, I <sub>D</sub> = 40A		32		
		V <sub>GS</sub> = 18V, I <sub>D</sub> = 40A, T <sub>J</sub> = 175°C		60		
		V <sub>GS</sub> = 20V, I <sub>D</sub> = 40A, T <sub>J</sub> = 175°C		55		
Transconductance	g <sub>fs</sub>	V <sub>DS</sub> = 18V, I <sub>D</sub> = 40A		25		S
		V <sub>DS</sub> = 18V, I <sub>D</sub> = 40A, T <sub>J</sub> = 175°C		21		
<b>Dynamic characteristics</b>						
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> = 1000V, V <sub>GS</sub> = 0V, f = 1MHz V <sub>AC</sub> = 25mV		2820		pF
Output Capacitance	C <sub>oss</sub>			108		
Reverse Transfer Capacitance	C <sub>rss</sub>			6.6		
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> = 800V, V <sub>GS</sub> = -4V/18V, I <sub>D</sub> = 40A		87		nC
Gate-Source Charge	Q <sub>gs</sub>			36		
Gate-Drain Charge	Q <sub>gd</sub>			24		
Internal Gate Resistance	R <sub>G(int)</sub>	f = 1 MHz, V <sub>AC</sub> = 25mV		1		Ω
<b>Source-Drain Diode characteristics</b>						
Diode Forward Current	I <sub>S</sub>	V <sub>GS</sub> = -4V, T <sub>C</sub> = 25°C		72		A
Diode Forward voltage	V <sub>SD</sub>	V <sub>GS</sub> = -4V, I <sub>SD</sub> = 20A		3.9		V
		V <sub>GS</sub> = -4V, I <sub>SD</sub> = 20A, T <sub>J</sub> = 175°C		3.3		
Diode pulse Current	I <sub>S,pulse</sub>	V <sub>GS</sub> = -4V, pulse width t <sub>p</sub> limited by T <sub>jmax</sub>		133		A