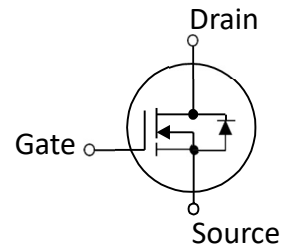


**20V, 6A <sup>(1)</sup> N-Channel MOSFET**

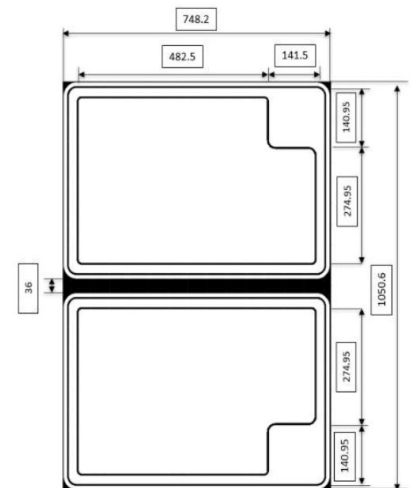
- Proprietary Trench Gate Device Design and Processes
- High Reliability Capability
- Sampled CP Probing and Inking

**SYMBOL**

**Electrical Characteristics in C/P Test (T<sub>J</sub> at 25 °C)**

Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Condition
V <sub>(BR)DSS</sub>	Drain-Source Breakdown Voltage	19.5	—	—	V	V <sub>GS</sub> = 0V, I <sub>D</sub> = 250μA
R <sub>DS(ON)</sub>	Static Drain-Source On-Resistance	—	—	19	mΩ	V <sub>GS</sub> = 4.5V, I <sub>D</sub> = 1A <sup>(2)</sup>
R <sub>DS(ON)</sub>	Static Drain-Source On-Resistance	—	—	31	mΩ	V <sub>GS</sub> = 2.5V, I <sub>D</sub> = 1A <sup>(2)</sup>
V <sub>GS(th)</sub>	Gate Threshold Voltage	0.5	—	1.2	V	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250μA
I <sub>DSS</sub>	Drain-to-Source Leakage Current	—	—	1	μA	V <sub>DS</sub> = 20V, V <sub>GS</sub> = 0V
I <sub>GSS</sub>	Gate-to-Source Leakage Current	-100	—	100	nA	V <sub>DS</sub> = 0V, V <sub>GS</sub> = ±10V
T <sub>J</sub> , T <sub>STG</sub>	Operating and Storage Temperature	-55°C to 150°C Max.				

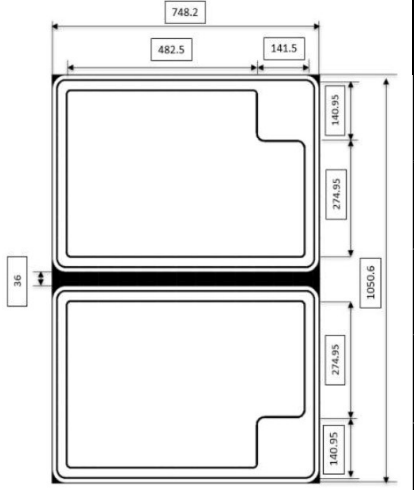
**Mechanical Data**

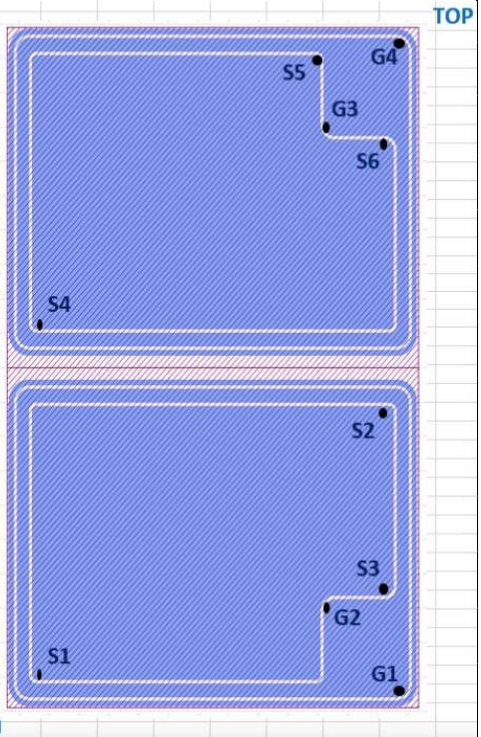
Chip Size	688 μm X 991 μm
Gate Pad Size	141 μm X 141 μm
Source Pad Size	605 μm X 397 μm
Scribe Line Width	60 μm
Wafer Thickness	100 μm
Wafer Diameter	200 mm
Gross Die	73826 EA
Source Metallization	Al-Cu (4μm typical)
Drain Metallization	Ti-Ni-Ag
Passivation	N/A
Recommended Storage Environment	Store in original container, in dry nitrogen, 6 months at ambient temperature of 23°C ± 3°C

**Die Drawing**


(1) This characteristic assumes the die is assembled in SOT23-6 package. Actual performance may degrade when assembled.

(2) Pulse Width  $t_p = < 1$  mS, Duty Cycle  $< 2\%$ .

Specific Assembly Information Bill of Material (BOM)		Die Drawing
Package Type	SOT23-6	
Die Attach Method	Soft solder	
Soft Solder Composition	Pb,Sn,Ag	
Gate Wire Bonding	Cu, 1.65 mil x1	
Source Wire Bonding	Cu, 1.65 mil x7	
Molding Compound Manufacturer	G700HF	
Solder Plating Composition	Pure Tin	

Position			Bonding Diagram Top View
	X (um)	Y (um)	
ZERO	0	0	
TOP	688.2	990.6	
S1	41.6	41.6	
S2	646.6	438.7	
S3	646.6	163.75	
S4	41.6	551.9	
S5	524.125	949	
S6	671.6	974	
G1	671.6	16.6	
G2	530.125	157.55	
G3	530.125	833.05	
G4	671.6	974	

**Electrical Characteristics in F/T Test ( $T_J$  at 25 °C)**

Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Condition
$I_{DSS}$	Drain-to-Source Leakage Current	—	—	1	$\mu A$	$V_{DS} = 20V, V_{GS} = 0V$
$I_{GSSF}$	Gate-to-Source Leakage Current	—	—	100	nA	$V_{DS} = 0V, V_{GS} = +10V$
$I_{GSSR}$	Gate-to-Source Leakage Current	-100	—	—	nA	$V_{DS} = 0V, V_{GS} = -10V$
$BV_{DSS}$	Drain-Source Breakdown Voltage	19.5	—	—	V	$V_{GS} = 0V, I_D = 250\mu A$
$BV_{DSS}$	Drain-Source Breakdown Voltage	19.5	—	—	V	$V_{GS} = 0V, I_D = 1mA$
$R_{DS(ON)}$	Static Drain-Source On-Resistance	—	—	22	m $\Omega$	$V_{GS} = 4.5V, I_D = 4.5A$
$R_{DS(ON)}$	Static Drain-Source On-Resistance	—	—	34	m $\Omega$	$V_{GS} = 2.5V, I_D = 3.5A$
$V_{GS(th)}$	Gate Threshold Voltage	0.5	—	1.2	V	$V_{DS} = V_{GS}, I_D = 250\mu A$
$V_{SD}$	Drain-Source Diode Forward Voltage			1.6	V	$V_{GS} = 0V, I_{SD} = 1A$
$I_{AS}$	Avalanche Current				A	$V_{DD} = 20V, V_{GS} = 10V, R_G = 25\Omega, L = 0.5mH$
$T_J, T_{STG}$	Operating and Storage Temperature	-55°C to 150°C Max.				

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