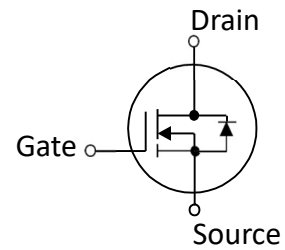


**40V, 50A <sup>(1)</sup> N-Channel MOSFET**
**SYMBOL**

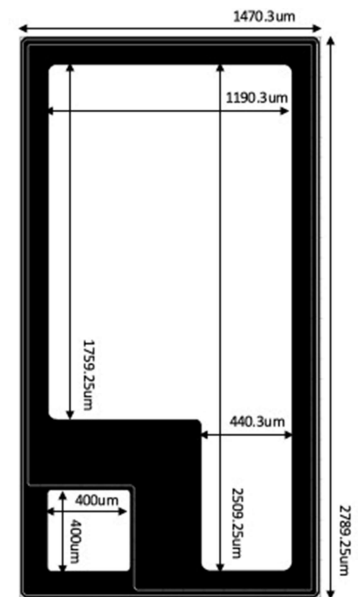
- Proprietary Trench Gate Device Design and Processes
- High Reliability Capability
- Sampled CP Probing and Inking


**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	40	—	—	V	V <sub>GS</sub> = 0V, I <sub>D</sub> = 250μA
R <sub>DS(ON)</sub>	Static Drain-Source On-Resistance	—	2	2.6	mΩ	V <sub>GS</sub> = 10V, I <sub>D</sub> = 1A <sup>(2)</sup>
V <sub>GS(th)</sub>	Gate Threshold Voltage	2	3.5	5	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> = 40V, 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> = ±20V
T <sub>J</sub> , T <sub>STG</sub>	Operating and Storage Temperature	-55°C to 150°C Max.				

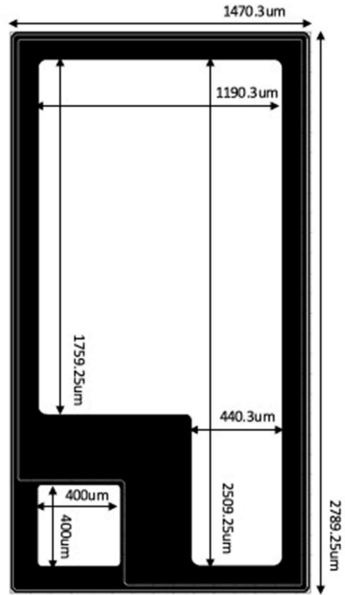
**Mechanical Data**
**Die Drawing**

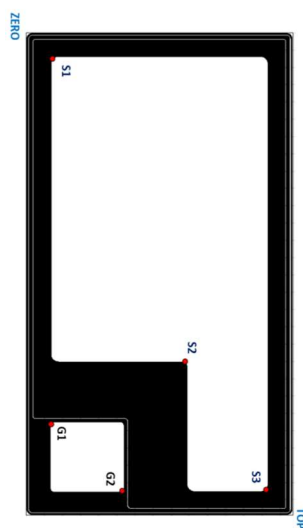
Chip Size	1470 μm X 2790 μm
Gate Pad Size	400 μm X 400 μm
Source Pad Size	1190 μm X 2509 μm
Scribe Line Width	60 μm
Wafer Thickness	150 μm
Wafer Diameter	200 mm
Gross Die	6584 EA
Source Metallization	Al-Cu (4μm typical)
Drain Metallization	Ti-Ni-Ag
Passivation	SiN
Recommended Storage Environment	Store in original container, in dry nitrogen, 6 months at ambient temperature of 23°C ± 3°C



(1) This characteristic assumes the die is assembled in DFN5\*6 package. Actual performance may degrade when assembled.

(2) Pulse Width tp = < 1 mS, Duty Cycle < 2%.

Specific Assembly Information Bill of Material (BOM)		Die Drawing
Package Type	DFN5*6	
Die Attach Method	Soft solder	
Soft Solder Composition	Pb,Sn,Ag	
Gate Wire Bonding	Cu, 2 mil x1	
Source Wire Bonding	Al Ribbon (double stitch)	
Molding Compound Manufacturer	G700HF	
Solder Plating Composition	Pure Tin	

Position			Bonding Diagram Top View
	X (μm)	Y (μm)	
ZERO	0	0	
TOP	2789.25	1470.3	
S1	140	140	
S2	1899.25	890	
S3	2649.25	1330.3	
G1	2252.65	136.6	
G2	2652.65	536.6	

**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	$\mu A$	$V_{DS} = 40V, V_{GS} = 0V$
$I_{GSSF}$	Gate-to-Source Leakage Current	—	—	100	nA	$V_{DS} = 0V, V_{GS} = +20V$
$I_{GSSR}$	Gate-to-Source Leakage Current	-100	—	—	nA	$V_{DS} = 0V, V_{GS} = -20V$
$BV_{DSS}$	Drain-Source Breakdown Voltage	40	—	—	V	$V_{GS} = 0V, I_D = 250\mu A$
$BV_{DSS}$	Drain-Source Breakdown Voltage	40	—	—	V	$V_{GS} = 0V, I_D = 1mA$
$R_{DS(ON)}$	Static Drain-Source On-Resistance	—	—	3.4	m $\Omega$	$V_{GS} = 10V, I_D = 10A$
$V_{GS(th)}$	Gate Threshold Voltage	2	3.5	5	V	$V_{DS} = V_{GS}, I_D = 250\mu A$
$V_{SD}$	Body Diode Forward Voltage	—	—	1.1	V	$V_{GS} = 0V, I_{SD} = 10A$
$I_{AS}$	Avalanche Current				A	$V_{DD} = 40V, V_{GS} = 10V, R_G = 25\Omega, L = 0.5mH$
$T_J, T_{STG}$	Operating and Storage Temperature	-55	—	150	$^{\circ}C$	

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