

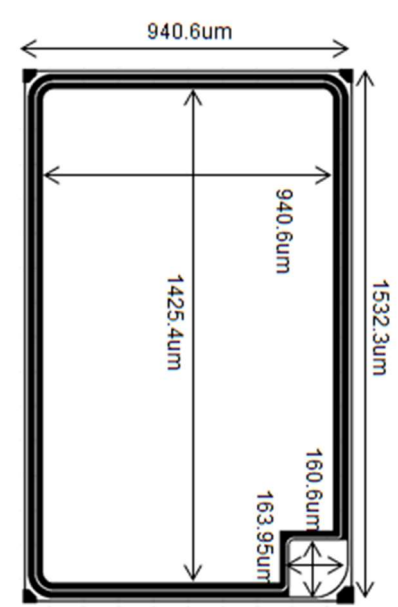
**30V, 10A <sup>(1)</sup> N-Channel MOSFET**

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

**SYMBOL**

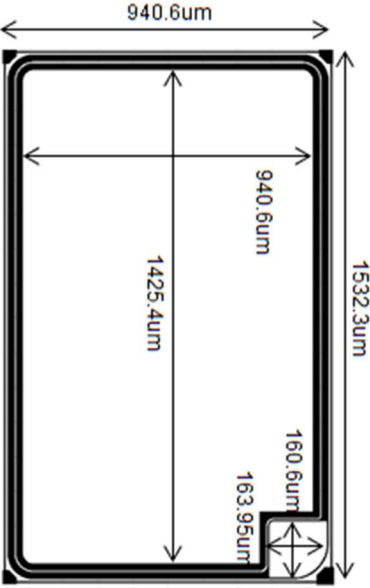
**Electrical Characteristics in C/P Test (T<sub>J</sub> at 25 °C)**

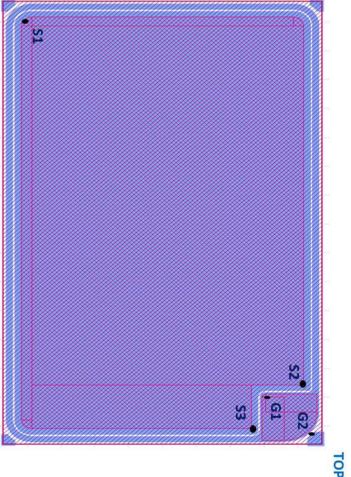
Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Condition
V <sub>(BR)DSS</sub>	Drain-Source Breakdown Voltage	30	—	—	V	V <sub>GS</sub> = 0V, I <sub>D</sub> = 250μA
R <sub>DS(ON)</sub>	Static Drain-Source On-Resistance	—	6.5	8.5	mΩ	V <sub>GS</sub> = 10V, I <sub>D</sub> = 1A <sup>(2)</sup>
R <sub>DS(ON)</sub>	Static Drain-Source On-Resistance	—	9	14	mΩ	V <sub>GS</sub> = 4.5V, I <sub>D</sub> = 1A <sup>(2)</sup>
V <sub>GS(th)</sub>	Gate Threshold Voltage	1	—	2.5	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> = 30V, 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	1596 μm X 1005 μm	
Gate Pad Size	161 μm X 164 μm	
Source Pad Size	1425 μm X 941 μm	
Scribe Line Width	60 μm	
Wafer Thickness	150 μm	
Wafer Diameter	200 mm	
Gross Die	17882 EA	
Source Metallization	Al-Cu (4μm typical)	
Drain Metallization	Ti-Ni-Ag	
Passivation	Yes	
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 SOP-8 package. Actual performance may degrade when assembled.

(2) Pulse Width t<sub>p</sub> = < 1 mS, Duty Cycle < 2%.

Specific Assembly Information Bill of Material (BOM)		Die Drawing
Package Type	SOP-8	
Die Attach Method	Soft solder	
Soft Solder Composition	Pb,Sn,Ag	
Gate Wire Bonding	Cu, 2 mil x1	
Source Wire Bonding	Cu, 2 mil x8	
Molding Compound Manufacturer	G700HF	
Solder Plating Composition	Pure Tin	

Position			Bonding Diagram Top View
	X (um)	Y (um)	
ZERO	0	0	
TOP	1536.3	944.6	
S1	55.45	55.45	
S2	1328.65	889.15	
S3	1480.85	734.05	
G1	1360.45	765.25	
G2	1521.05	929.2	

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

Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Condition
$I_{DSS}$	Drain-to-Source Leakage Current	—	—	1	$\mu A$	$V_{DS} = 30V, V_{GS} = 0V$
$I_{GSSF}$	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	30	—	—	V	$V_{GS} = 0V, I_D = 250\mu A$
$BV_{DSS}$	Drain-Source Breakdown Voltage	30	—	—	V	$V_{GS} = 0V, I_D = 1mA$
$R_{DS(ON)}$	Static Drain-Source On-Resistance	—	—	11	m $\Omega$	$V_{GS} = 10V, I_D = 10A$
$V_{GS(th)}$	Gate Threshold Voltage	1	—	2.5	V	$V_{DS} = V_{GS}, I_D = 250\mu A$
$V_{SD}$	Drain-Source Diode Forward Voltage			1.1	V	$V_{GS} = 0V, I_{SD} = 10A$
EAS test	IAS				A	$V_{DD} = 30V, V_{GS} = 10V, R_G = 25\Omega, L = 0.5mH$
$T_J, T_{STG}$	Operating and Storage Temperature	-55°C to 150°C Max.				

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