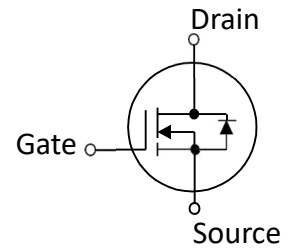


40V N-Channel MOSFET

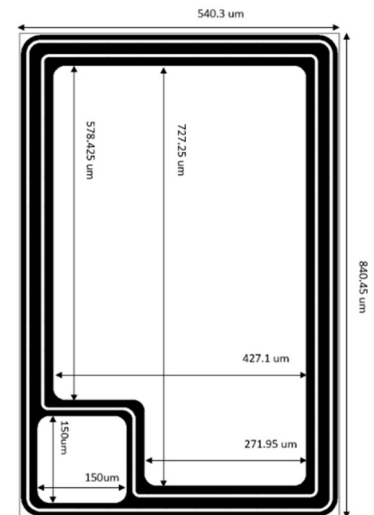
- Proprietary Trench Gate Device Design and Processes
- High Reliability Capability
- Sampled CP Probing and Inking

SYMBOL

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

Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Condition
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	40	—	—	V	$V_{GS} = 0V, I_D = 250\mu A$
$R_{DS(ON)}$	Static Drain-Source On-Resistance	—	20	24	m Ω	$V_{GS} = 10V, I_D = 1A^{(1)}$
$R_{DS(ON)}$	Static Drain-Source On-Resistance	—	33	40	m Ω	$V_{GS} = 4.5V, I_D = 1A^{(1)}$
$V_{GS(th)}$	Gate Threshold Voltage	1.0	—	2.5	V	$V_{DS} = V_{GS}, I_D = 250\mu A$
I_{DSS}	Drain-to-Source Leakage Current	—	—	1	μA	$V_{DS} = 40V, V_{GS} = 0V$
I_{GSS}	Gate-to-Source Leakage Current	-100	—	100	nA	$V_{DS} = 0V, V_{GS} = \pm 20V$
T_J, T_{STG}	Operating and Storage Temperature	-55°C to 150°C Max.				

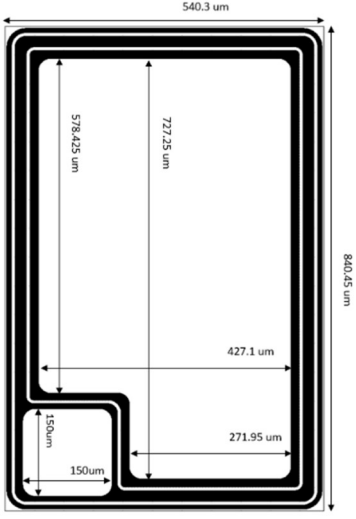
Mechanical Data
Die Drawing

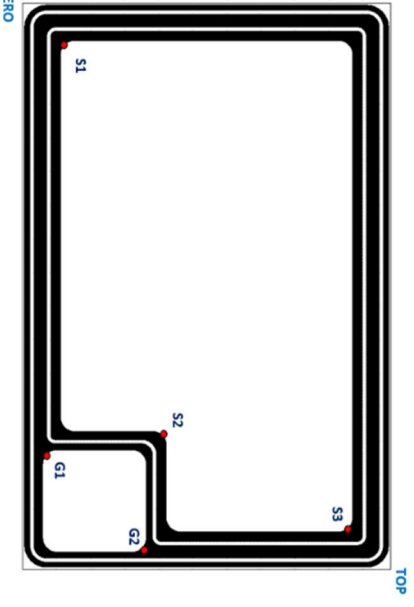
Chip Size	840 μm X 540 $\mu m^{(2)}$
Gate Pad Size	150 μm X 150 μm
Source Pad Size	727 μm X 427 μm
Scribe Line Width	60 μm
Wafer Thickness	150 μm
Wafer Diameter	200 mm
Gross Die	54018 EA
Source Metallization	Al-Cu (4 μm typical)
Drain Metallization	Ti-Ni-Ag
Passivation	SiN
Recommended Storage Environment	Store in original container, in dry nitrogen, 6 months at ambient temperature of 23°C \pm 3°C



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

(2) Chip size not include scribe line.

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	Cu, 2 mil x5	
Molding Compound Manufacturer	G700HF	
Solder Plating Composition	Pure Tin	

Position			Bonding Diagram Top View
	X (um)	Y (um)	
ZERO	0	0	
TOP	840.45	540.3	
S1	56.6	56.6	
S2	635.025	211.75	
S3	783.85	483.7	
G1	664.025	30.55	
G2	814.025	180.55	

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	μA	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 =250μA
BV _{DSS}	Drain-Source Breakdown Voltage	40	—	—	V	V _{GS} =0V, I _D =1mA
R _{DS(ON)}	Static Drain-Source On-Resistance	—	—	27	mΩ	V _{GS} =10V, I _D =20A
R _{DS(ON)}	Static Drain-Source On-Resistance	—	—	43	mΩ	V _{GS} =4.5V, I _D =15A
V _{GS(th)}	Gate Threshold Voltage	1.0	—	2.5	V	V _{DS} =V _{GS} , I _D =250μA
V _{SD}	Drain-Source Diode Forward Voltage			1.1	V	V _{GS} = 0V, I _{SD} = 20A
EAS test	IAS				A	V _{DD} =40V, V _{GS} =10V, R _G =25ohm, L=0.5mH
T _J , T _{STG}	Operating and Storage Temperature	-55°C to 150°C Max.				

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