

# HSMDG22-40

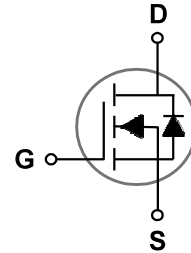
## 40V N Channel MOSFETs Wafer Datasheet

### Features

- Die in 8" Wafer Form
- 40V , N-Channel , NGD
- $R_{DS(ON)}=2.2m\Omega$  (Max.) @  $V_{GS}=10V$

### Die Description

Parameter	Parameter	Rating
Die Size (with SL)	3600 X 1900	um <sup>2</sup>
Gate Pad Size	180 X 180	
Source Pad Size	Full Metalized Source Region	
Scribe Line Size	80	um
Wafer size	200 with 100 flat	mm
Wafer Thickness	4 (Taiko)	mil
Top Metallization	Al(4.5um) , Ni-Au(10KÅ)	
Back Metallization	NiV(3KÅ) – Ag(1.5 KÅ)	
Gate Bond Wire	1.2 mil Au or Cu x 1	
Source Bond Wire	Cu Clip or 8mil Al stitch & 7	
Estimated Gross Die	3,715	



### Absolute Maximum Ratings $T_c=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Rating	Unit
$V_{DSS}$	Drain-Source Voltage	40V	V
$V_{GSS}$	Gate-Source Voltage	$\pm 20V$	V
$T_J$	Operating Junction Temperature Range	$-50$ to $150^\circ\text{C}$	$^\circ\text{C}$
$T_{STG}$	Storage Temperature Range	$-50$ to $150^\circ\text{C}$	$^\circ\text{C}$

### Electrical Characteristics ( $T_J=25^\circ\text{C}$ , unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V$ , $I_D=250\mu\text{A}$	40	---	---	V
$I_{DSS}$	Drain-Source Leakage Current	$V_{DS}=40V$ , $V_{GS}=0V$ , $T_J=25^\circ\text{C}$	---	---	1	$\mu\text{A}$
		$V_{DS}=32V$ , $V_{GS}=0V$ , $T_J=85^\circ\text{C}$	---	---	10	$\mu\text{A}$
$I_{GSS}$	Gate-Source Leakage Current	$V_{GS}=\pm 20V$ , $V_{DS}=0V$	---	---	$\pm 100$	nA
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=10V$ , $I_D=40A$	---	1.6	2.2	$m\Omega$
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$ , $I_D=250\mu\text{A}$	1.0	---	3.0	V

Note : 1. The data tested by pulsed , pulse width  $\cong 300\mu\text{s}$  , duty cycle  $\cong 2\%$ .  
 2.  $R_{DS(ON)}$  calculated by PPAK5X6 Package Type , Cu Clip bond