ITW2N7002

N-Channel 60V(D-S) MOSFET

GENERAL DESCRIPTION

The ITW2N7002 is the N-Channel logic enhancement mode power field effect transistors are produced using high cell density, DMOS trench technology. This high density process is especially tailored to minimize on-state resistance.

FEATURES

- $R_{DS(ON)}$ ≤3Ω@V_{GS}=10V
- $R_{DS(ON)}$ ≤4Ω@V_{GS}=4.5V
- ESD Protection
- Super high density cell design for extremely low $R_{DS(ON)}$
- Exceptional on-resistance and maximum DC current capability
- Capable doing Cu wire bonding

APPLICATIONS

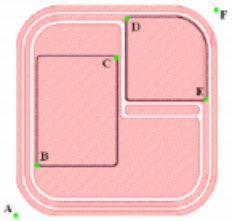
- Power Management in Note book
- Portable Equipment
- Battery Powered System
- Load Switch
- DSC

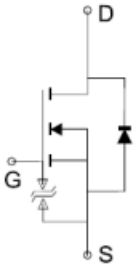
CHIP APPEARANCE

Die Size: X= 250 um (w/o S/L) **Gate Pad Size: X =100um**

Y = 250 um (w/o S/L) **Y = 100 um**

A : (0 , 0)
B : (25 , 60)
C : (125 , 190)
D : (137 , 237)
E : (237 , 137)
F : (250 , 250)





N-Channel MOSFET

Scribe Line(S/L) : 60um

Chip Size	310 X 310 μm	**Top Metal**	Al-Cu
Gate Pad Size	100 X 100 μm	**Top Metal Thickness**	3.3 μm (Typ)
Wafer Size	8 inch	***Back Metal**	Ti/Ni/Sn
Chip Thickness	6mil (Typical)		
Valid Wafer Area	Exclusion zone is 3mm from the wafer edge.		

* Reserved in N2 locker and warranty 2 months after shipping.

Probing: 0.1% sample probed in order to guarantee minimum yield.

ITW2N7002

N-Channel 60V(D-S) MOSFET

Absolute Maximum Ratings (T_A=25℃ Unless Otherwise Noted)

Parameter	Symbol	Maximum Ratings	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	±20	V

Electrical Characteristics (T_j=25℃ Unless Otherwise Specified)

Symbol	Parameter	Limit	Min	Typ	Max	Unit
STATIC						
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS}=0V, I_D=250 μA	60			V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS}, I_D=250 μA	0.8		2.5	V
I_{GSS}	Gate-Body Leakage	V_{DS}=0V, V_{GS}=±20V			±10	μA
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=48V, V_{GS}=0V			1	μA
$R_{DS(ON)}$	Drain-Source On-Resistance*	V_{GS}=10V, I_D=500mA			3	Ω
		V_{GS}=4.5V, I_D=200mA			4	
V_{SD}	Diode Forward Voltage *	I_S=500mA, V_{GS}=0V			1.3	V

Notes: a. Based on Eutectic and bond wire Cu wire 1.0mil x1(S), Cu wire 1.0mil× 1 (G) on each die of small SOT-23 package with Cu lead frame.

b. Pulse test; pulse width ≤ 300us, duty cycle≤ 2%.