

General Description

The HSBG4024 is the high cell density trench N-ch MOSFETs, which provides excellent RDSON and efficiency for most of the small power switching and load switch applications.

The HSBG4024 meets the RoHS and Green Product requirement with full function reliability approved.

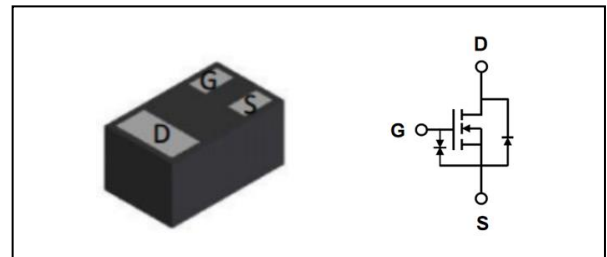
Product Summary

V_{DS}	40	V
$R_{DS(ON),max}$	7.5	Ω
I_D	0.18	A

Features

- Small Single Switch
- Load Switch
- Low Gate Threshold Voltage
- ESD Protected

DFN1006 Pin Configuration



Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	40	V
V_{GS}	Gate-Source Voltage	± 20	V
$I_D@T_A=25^\circ\text{C}$	Continuous Drain Current, V_{GS} @ 4.5V	0.18	A
I_{DM}	Pulsed Drain Current	0.36	A
$P_D@T_A=25^\circ\text{C}$	Total Power Dissipation	0.15	W
T_{STG}	Storage Temperature Range	-55 to 150	$^\circ\text{C}$
T_J	Operating Junction Temperature Range	-55 to 150	$^\circ\text{C}$

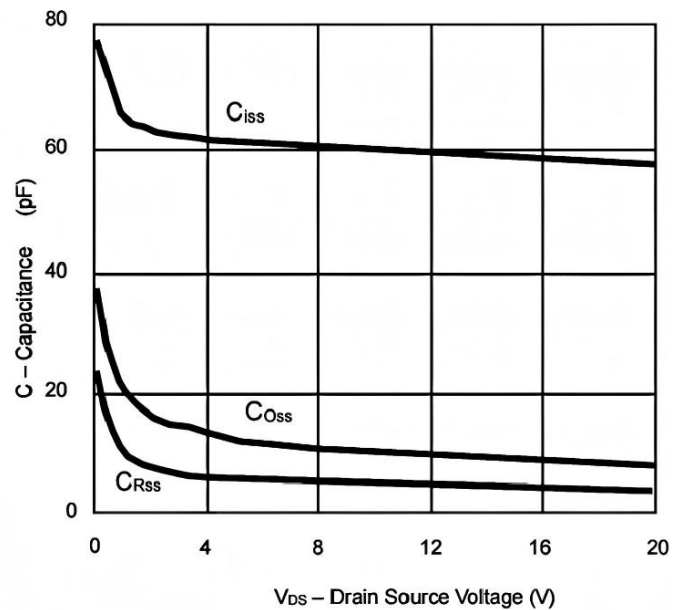
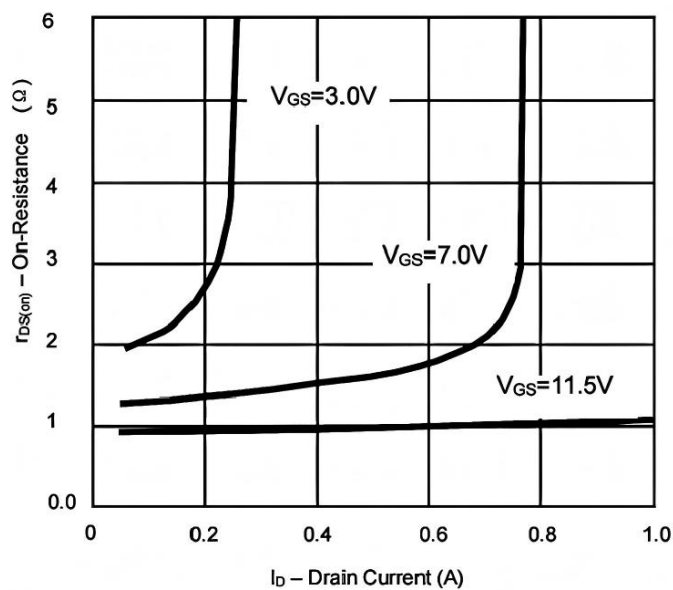
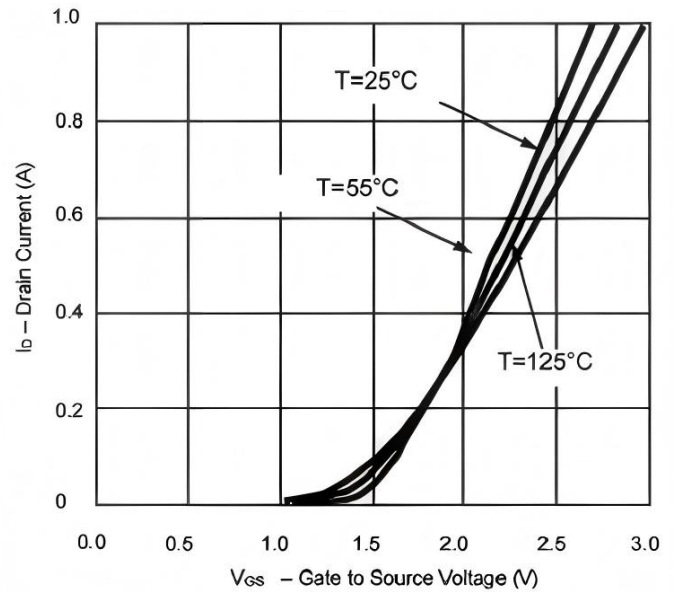
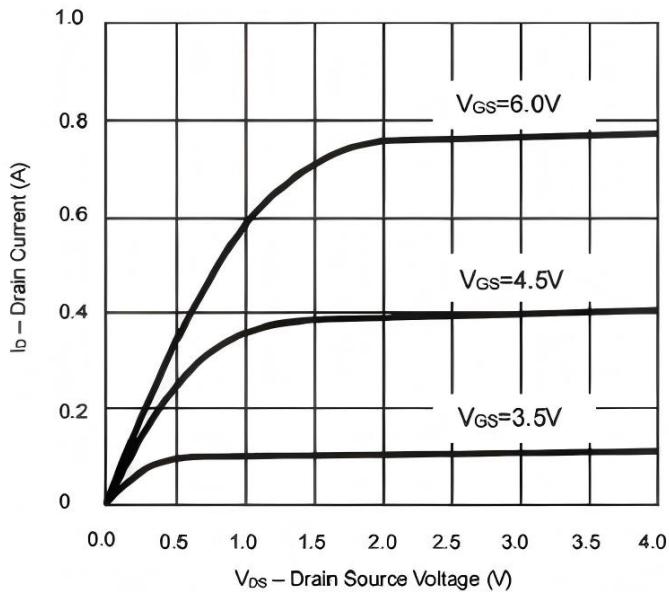


Electrical Characteristics (T_J=25 °C, unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =10μA	40	---	---	V
R _{DS(ON)}	Static Drain-Source On-Resistance	V _{GS} =10V, I _D =0.5A	---	---	7.5	Ω
		V _{GS} =5V, I _D =0.05A	---	---	7.5	
V _{GS(th)}	Gate Threshold Voltage	V _{GS} =V _{DS} , I _D =250μA	0.5	---	1.5	V
I _{DSS}	Drain-Source Leakage Current	V _{DS} =40V, V _{GS} =0V, T _J =25°C	---	---	0.5	μA
I _{GSS}	Gate-Source Leakage Current	V _{GS} =±20V, V _{DS} =0V	---	---	±10	μA
T _{d(on)}	Turn-On Delay Time	V _{DD} =30V, V _{GS} =10V, R _G =25Ω R _L =150Ω, I _D =200mA	---	20	---	ns
T _{d(off)}	Turn-Off Delay Time		---	20	---	
C _{iss}	Input Capacitance	V _{DS} =25V, V _{GS} =0V, f=1MHz	---	40	---	pF
C _{oss}	Output Capacitance		---	20	---	
C _{rss}	Reverse Transfer Capacitance		---	5	---	



Typical Characteristics

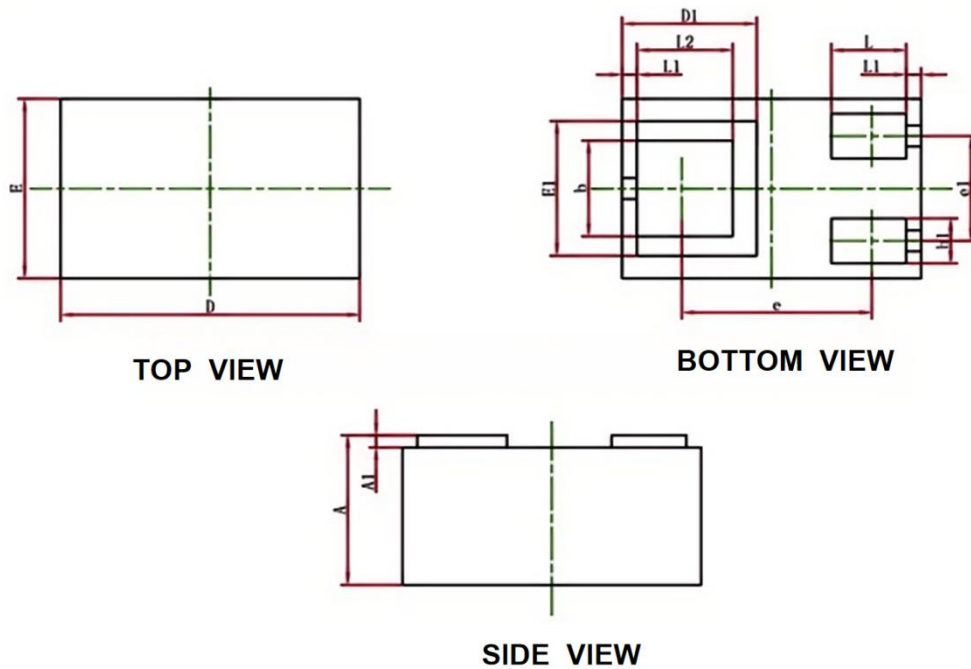




Ordering Information

Part Number	Package code	Packaging
HSBG4024	DFN1006-3	10000/Tape&Reel

DFN1006-3 Package Outline



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.450	0.550	0.018	0.022
AL	0.010	0.100	0.000	0.004
D	0.950	1.050	0.037	0.041
E	0.550	0.650	0.022	0.026
D1	0.450REF.		0.0178REF.	
E1	0.450REF.		0.0178REF.	
b	0.270	0.370	0.011	0.015
bl	0.100	0.200	0.004	0.008
e	0.635REF.		0.025REF.	
el	0.300	0.400	0.012	0.016
L	0.200	0.300	0.008	0.012
L1	0.050REF.		0.002REF.	
L2	0.270	0.370	0.011	0.015



HSBG4024 Marking

