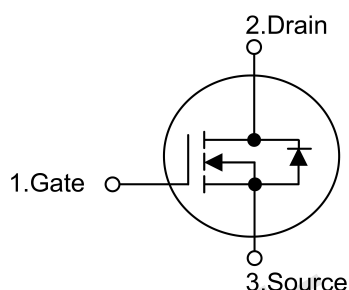


Description

The HS7N65DA N-Channel enhancement mode silicon gate power MOSFET is designed for high voltage, high speed power switching applications such as switching regulators, switching converters, solenoid, motor drivers, relay drivers.

Pin configuration

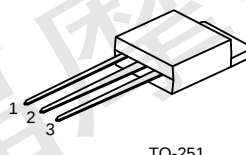
Order Number	Package
7N65IA	TO-251



Features

VDS	650V
RDS(on)Max.	1.5 Ω
ID	7A

- Low gate charge (typical 28nC)
- Fast switching capability
- Avalanche energy specified
- Improved dv/dt capability



Maximum Ratings (Tc = 25°C unless otherwise noted*)

Parameter		Symbol	Ratings	Units
Drain-Source Voltage		VDSS	650	V
Gate-Source Voltage		VGSS	±30	V
Continuous Drain Current	Tc=25°C	ID	7*	A
	Tc=100°C		5*	A
Pulsed Drain Current		IDM	29	A
Power Dissipation	Tc=25°C	PD	75	W
	Derate above 25°C		0.6	
Single Pulsed AvalancheEnergy (note 1)		EAS	210	
Operating Junction and Storage Temperature Range		TJ,Tstg	-55~+150	°C

* Dran current limited by maximum junction temperature.

1:L=5mH, IAS=7A, VDD=50V, RG=25 Ω, Starting TJ=25°C

Thermal Characteristics

Parameter	Symbol	Ratings	Units
Thermal resistance, case to sink typ.	RthCS	0.5	°C/W
Thermal resistance junction to case.	RthJC	2.7	°C/W
Thermal resistance junction to ambient.	RthJA	106	°C/W

Electrical characteristics (TA =25℃ Unless Otherwise Specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
STATIC						
BVDSS	Drain-Source Breakdown Voltage	VGS=0V, ID=250μA	650	—	—	V
VGS(th)	Gate Threshold Voltage	VDS=VGS, ID=250μA	2	—	4	V
IGSS	Gate-Body Leakage	VDS=0V, VGS=±30V	—	—	±100	nA
IDSS	Zero Gate Voltage Drain Current	VDS=650V, VGS=0V	—	—	1	μA
RDS(ON)	Drain-Source On-Resistance*	VGS=10V, ID=3.5A	—	—	1.5	Ω
VSD	Diode Forward Voltage*	IS=3.5A, VGS=0V	—	—	1.5	V
DYNAMIC						
Qg	Total Gate Charge	VDD=520V, VGS=10V, ID=7A	—	28	—	
Qgs	Gate-Source Charge		—	5.7	—	
Qgd	Gate-Drain Charge		—	22	—	
Ciss	Input Capacitance	VDS=25, VGS=0V, f=1MHz	—	982	—	pF
Coss	Output Capacitance		—	106	—	
Crss	Reverse Transfer Capacitance		—	6	—	
td(on)	Turn-On Delay Time	VDD=480V, RG=25Ω, ID=7A	—	10	—	ns
tr	Turn-On Rise Time		—	35	—	
td(off)	Turn-Off Delay Time		—	35	—	
tf	Turn-Off Fall Time		—	40	—	
ISD	Continuous drain-source current		—	—	7	A
ISM	Pulsed drain-source current		—	—	29	A

Notes :a. Pulse test:pulse width 300 us,duty cycle 2% ,Guaranteed by design,not subject to production testing.

b. HOMSEMI reserves the right to improve product design,functions and reliability without notice.

Typical Characteristics (T_J =25°C Noted)

