



HN0301

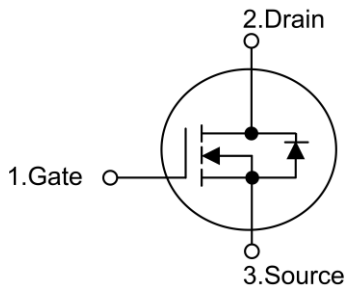
N channel 100V MOSFET

Description

The HN0301 uses advanced trench technology and design to provide excellent RDS(ON) with low gate charge. It can be used in a wide variety of applications.

Pin configuration

Order Number	Package
HN0301	SOT-23



SOT-23

Features

VDS	100V
RDS(on)MAX	205mΩ
ID	3A

- High density cell design for ultra low Rdson
- Fully characterized avalanche voltage and current
- Excellent package for good heat dissipation

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

Parameter	Symbol	Ratings	Units
Drain-Source Voltage	VDSS	100	V
Gate-Source Voltage	VGSS	±20	V
Continuous Drain Current (Tc=25°C)	ID	3	A
Pulsed Drain Current	IDM	6	A
Power Dissipation(Tc=25°C)	PD	1.3	W
Operating Junction and Storage Temperature Range	TJ,Tstg	-55~+175	°C

* Dran current limited by maximum junction temperature.

Thermal Characteristics

Parameter	Symbol	Ratings	Units
Thermal resistance junction to ambient.	RthJA	100	°C/W



Electrical characteristics (TA =25°C Unless Otherwise Specified)

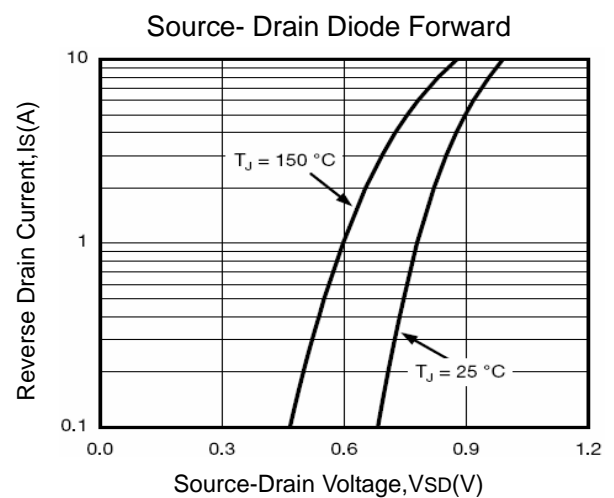
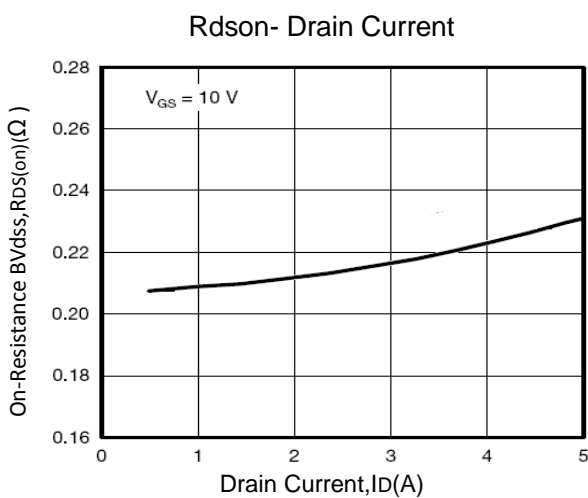
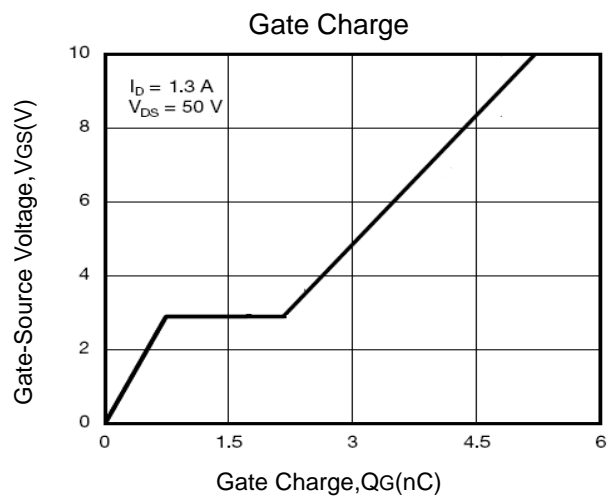
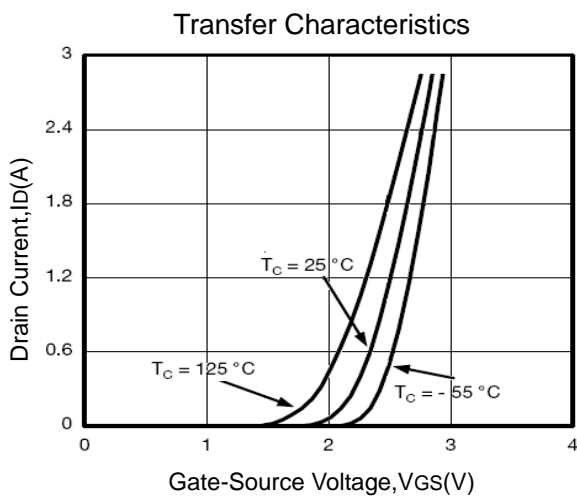
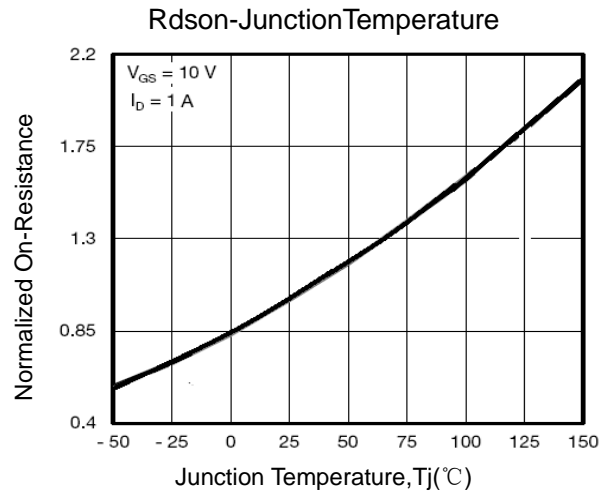
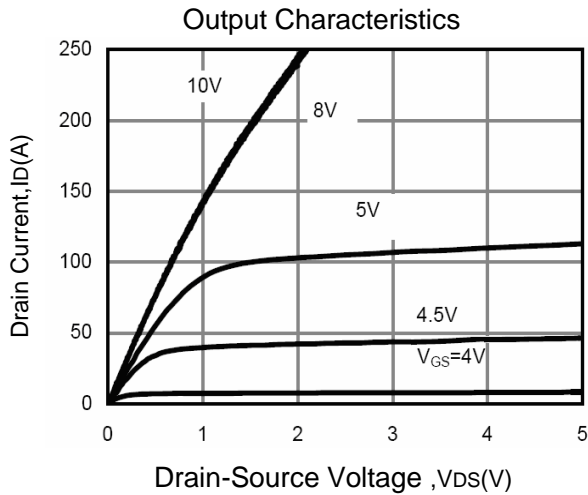
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
STATIC						
BVDSS	Drain-Source Breakdown Voltage	VGS=0V, ID=250μA	100	—	—	V
VGS(th)	Gate Threshold Voltage	VDS=VGS, ID=250μA	1.2	1.8	2.5	V
IGSS	Gate-Body Leakage	VDS=0V, VGS=±20V	—	—	±100	nA
IDSS	Zero Gate Voltage Drain Current	VDS=100V, VGS=0V	—	—	1	μA
RDS(ON)	Drain-Source On-Resistance	VGS=5V, ID=1A	—	185	205	mΩ
VSD	Diode Forward Voltage	IS=1.3A, VGS=0V	—	—	1.2	V
DYNAMIC						
Qg	Total Gate Charge	VDS=50V, VGS=10V, ID=1.3A	—	5.2	—	nC
Qgs	Gate-Source Charge		—	0.75	—	
Qgd	Gate-Drain Charge		—	1.4	—	
Ciss	Input Capacitance	VDS=50V, VGS=0V, f=1MHz	—	190	—	pF
Coss	Output Capacitance		—	22	—	
Crss	Reverse Transfer Capacitance		—	13	—	
td(on)	Turn-On Delay Time	VGS =10V, RL=39Ω VDD=50V, RG=1Ω	—	6	—	nS
tr	Turn-On Rise Time		—	10	—	
td(off)	Turn-Off Delay Time		—	10	—	
tf	Turn-Off Fall Time		—	6	—	
Is	Diode Forward Current		—	—	2	A

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

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



Typical Characteristics (T_J = 25°C Noted)

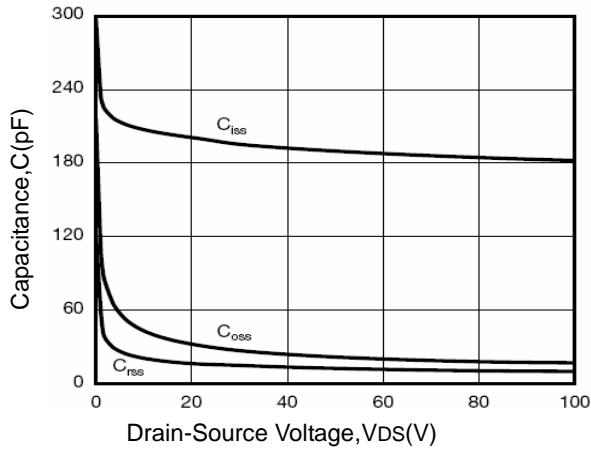




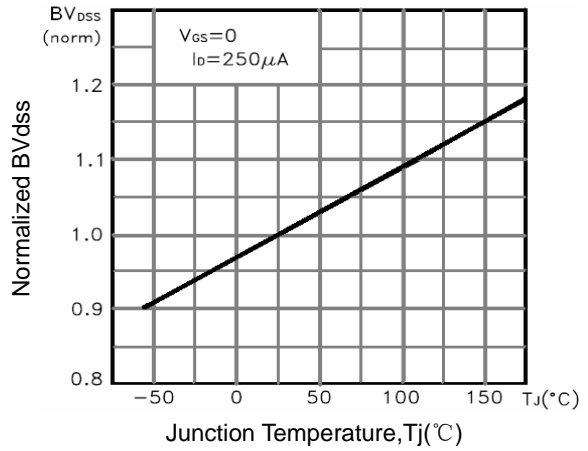
HN0301

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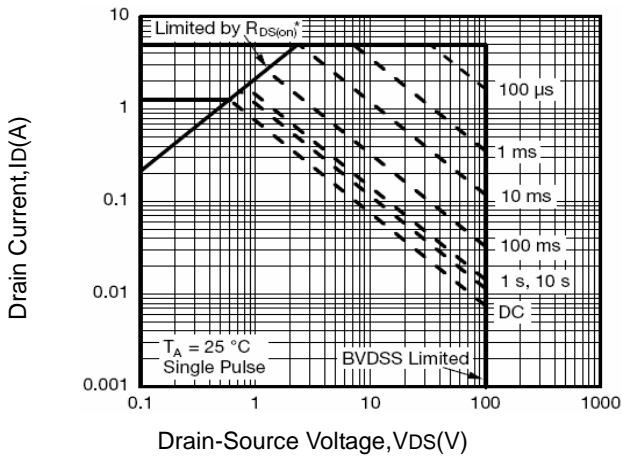
Capacitance vs VDS



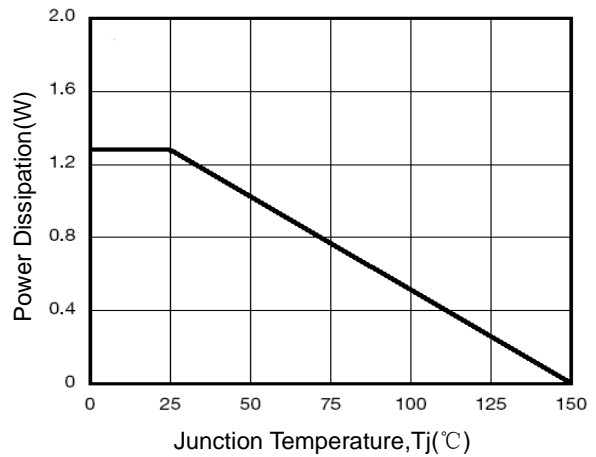
BVDSS vs Junction Temperature



Safe Operation Area



Power De-rating



Normalized Maximum Transient Thermal Impedance

