HS3205T

N channel MOSFET

1. Description

The HS3205T is the N-Channel logic enhancement mode power field effect transistors , using high cell density, DMOS trench technology.This high density process is especially tailored to minimize on-state resistance.

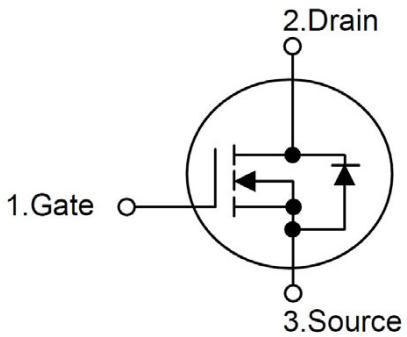
2. Feature

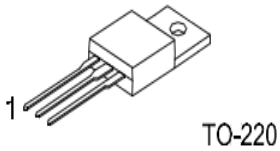
- $R_{DS(ON)} \leqq 8.0m\Omega @ V_{GS}=10V$
- Super high density cell design for extremely low $R_{DS(ON)}$
- Exceptional on-resistance and maximum DC current capability

V_{DS}	55	V
$R_{DS(on)}$	8.0	mΩ
I_D	106.6	A

3. Pin configuration

Order Number	Package
HS3205T	TO-220





TO-220

4. Absolute maximum ratings (Tc=25℃ Unless Otherwise Noted)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DSS}	55	V
Gate-Source Voltage		V_{GSS}	±20	V
Continuous Drain Current*	Tc=25℃	I_D	106.6	A
	Tc=70℃		89.2	
Pulsed Drain Current		I_{DM}	426	A
Maximum Power Dissipation	Tc=25℃	P_D	200	W
	Tc=70℃		140	
Operating Junction Temperature		T_J	-55 to 175	℃

5. Thermal characteristics

Parameter	Symbol	Ratings	Units
Thermal resistance, case-to-sink typ.	R_{thCS}	0.5	°C/W
Thermal resistance junction-case	R_{thJC}	0.75	°C/W

6. Electrical characteristics (TA=25℃ Unless Otherwise Specified)

Symbol	Parameter	Limit	Min	Typ	Max	Unit
STATIC						
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS}=0V, I_D=250μA	55			V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS}, I_D=250μA	3.0		5.0	V
I_{GSS}	Gate Leakage Current	V_{DS}=0V, V_{GS}=±20V			±100	nA
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=55V, V_{GS}=0V			1	μA
$R_{DS(ON)}$	Drain-Source On-Resistance[a]	V_{GS}=10V, I_D= 62A		6.6	8.0	mΩ
V_{SD}	Diode Forward Voltage	I_S=62A, V_{GS}=0V		0.9	1.2	V
DYNAMIC						
Qg	Total Gate Charge	V_{DS}=44V, V_{GS}=10V, I_D=62A		91		nC
Qg	Total Gate Charge	V_{DS}=44V, V_{GS}=4.5V, I_D=62A		28		
Qgs	Gate-Source Charge			41		
Qgd	Gate-Drain Charge			18		
Ciss	Input Capacitance	V_{DS}=15V, V_{GS}=0V, f=1MHz		6330		pF
Coss	Output Capacitance			495		
Crss	Reverse Transfer Capacitance			154		
Rg	Gate-Resistance	V_{DS}=0V, V_{GS}=0V, f=1MHz		2.4		Ω
$t_{d(on)}$	Turn-On Delay Time	V_{DS}=28V, R_L=28Ω, V_{GS}=10V, R_G=6Ω		55		ns
tr	Turn-On Rise Time			12		
$t_{d(off)}$	Turn-Off Delay Time			90		
tf	Turn-Off Fall Time			16		

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.

