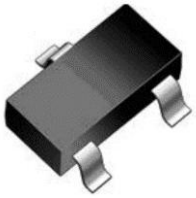
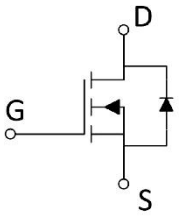
30V_{DS} N-Channel Enhancement Mode MOSFET

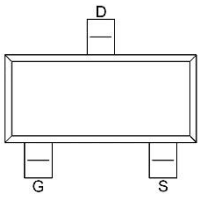
Features

- V_{DS}=30V,I_D=100mA
- $R_{DS(ON)}$=0.88Ω（TYP.）V_{GS}=4V
- Reliable and Rugged
- Avalanche Rated
- Low On-Resistance

SOT523







Applications

- Load Switch
- Power management in portable/desktop PCs
- DC/DC conversion

Ordering Information

Device	Package		Marking	Package Qty.
HMN3019	SOT 523	Pb-Free	KN	3000pcs/Reel

Absolute Maximum Ratings (T$_C$=25℃,unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage (V_{GS}=0V)	V_{DS}	30	V
Gate-Source Voltage (V_{GS}=0V,static)	V_{GS}	±20	V
Continuous Drain Current (T$_C$=25℃)	I_D	100	mA
Continuous Drain Current (T$_C$=100℃)		-	A
Maximum Power Dissipation (T$_C$=25℃)	P_D	0.63	W
Operating,Storage Temperature Range	T_J,T_{STG}	-55~150	℃

Thermal Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance,Junction-to-Case	$R_{\theta JC}$	-	-	-	℃/ W
Thermal Resistance,Junction-to-Ambient	$R_{\theta JA}$	-	-	-	℃/ W

Electrical Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V,I_D=250μA	30	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=24V, V_{GS}=0V	-	-	1	μA
Gate -Source Leakage Current	I_{GSS}	V_{GS}=±12V, V_{DS}=0V	-	-	±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}= V_{GS},I_D=250μA	-	-	1.5	V
Drain-Source On-stage Resistance	$R_{DS(ON)}$	V_{GS}=4V,I_D=2.8A	-	0.7	2	Ω
		V_{GS}=2.5V,I_D=2.5A	-	1.4	3	

Dynamic Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Input capacitance	C_{iss}	V_{DS}=15V	-	30	-	pF
Output capacitance	C_{oss}	V_{GS}=0V	-	10	-	
Reverse transfer capacitance	C_{rss}	f=1MHz	-	4	-	
Total Gate Charge	Q_g	V_{DS}=15V	-	-	-	nC
Gate Source Charge	Q_{gs}	V_{GS}=4.5V	-	-	-	
Gate Drain Charge	Q_{gd}	I_D=5.8A	-	-	-	
Turn-on delay Time	$t_{d(on)}$	V_{GS}=10V	-	24	-	ns
Rise time	t_r	V_{DS}=15V	-	30	-	
Turn-off delay Time	$t_{d(off)}$	R_L=2.7Ω	-	38	-	
Fall time	t_f	R_G=3Ω	-	10	-	

Reverse Diode Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Body Diode Forward Voltage	V_{SD}	V_{GS}=0V,I_{SD}=1A	-	-	-	V
Reverse Recovery Time	t_{rr}	V_{GS}=0V,I_{SD}=5A	-	-	-	ns
Reverse Recovery Charge	Q_{rr}	d_i/d_t=100A/μs	-	-	-	nC