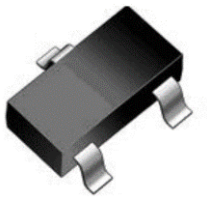
100V_{DS} N-Channel Enhancement Mode MOSFET

Features

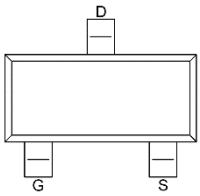
- V_{DS}=100V,I_D=2A
- $R_{DS(ON)}$=234mΩ（TYP.）V_{GS}=10V
- Reliable and Rugged
- Avalanche Rated
- Low On-Resistance

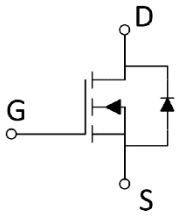
SOT23



Applications

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





Ordering Information

Device	Package		Marking	Package Qty.
HMN2324	SOT-23	Pb-Free	S24	3000pcs/Reel

Absolute Maximum Ratings (T_C=25℃,unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage (V_{GS}=0V)	V_{DS}	100	V
Gate-Source Voltage (V_{GS}=0V,static)	V_{GS}	±20	V
Continuous Drain Current (T_C=25℃)	I_D	2	A
Continuous Drain Current (T_C=100℃)		0.62	A
Maximum Power Dissipation (T_C=25℃)	P_D	0.35	W
Operating,Storage Temperature Range	T_J,T_{STG}	-55~150	℃

Thermal Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance,Junction-to-Case	$R_{\theta JC}$	-	60	-	℃/ W
Thermal Resistance,Junction-to-Ambient	$R_{\theta JA}$	-	375	-	℃/ W

Electrical Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V,I_D=250μA	100	-	-	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	1.2	-	2.8	V
Drain-Source On-stage Resistance	$R_{DS(ON)}$	V_{GS}=10V,I_D=2.8A	-	195	248	mΩ
		V_{GS}=4.5V,I_D=2.5A	-	200	266	

Dynamic Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Input capacitance	C_{iss}	V_{DS}=15V	-	305	-	pF
Output capacitance	C_{oss}	V_{GS}=0V	-	65	-	
Reverse transfer capacitance	C_{rss}	f=1MHz	-	29	-	
Total Gate Charge	Q_g	V_{DS}=15V	-	-	5.8	nC
Gate Source Charge	Q_{gs}	V_{GS}=4.5V	-	0.75	-	
Gate Drain Charge	Q_{gd}	I_D=5.8A	-	1.4	-	
Turn-on delay Time	$t_{d(on)}$	V_{GS}=10V	-	-	45	ns
Rise time	t_r	V_{DS}=15V	-	-	39	
Turn-off delay Time	$t_{d(off)}$	R_L=2.7Ω	-	-	26	
Fall time	t_f	R_G=3Ω	-	-	20	

Reverse Diode Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Body Diode Forward Voltage	V_{SD}	V_{GS}=0V,I_{SD}=1A	-	0.8	1.2	V
Reverse Recovery Time	t_{rr}	V_{GS}=0V,I_{SD}=5A	-	16	-	ns
Reverse Recovery Charge	Q_{rr}	d_i/d_t=100A/μs	-	9	-	nC