

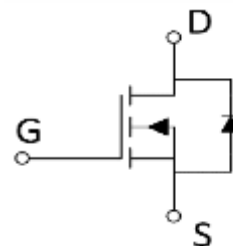
-20V_{DS} P-Channel Enhancement Mode MOSFET

Features

- V_{DS}=-20V, I_D=-7A
- R_{DS(ON)}=21mΩ (TYP.) V_{GS}=4.5V
- Reliable and Rugged
- Avalanche Rated
- Low On-Resistance

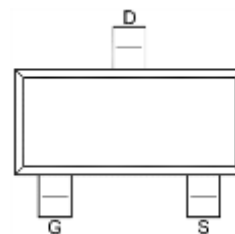


SOT-23



Applications

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



Ordering Information

Device	Package		Marking	Package Qty.
HM20P07	SOT-23	Pb-Free	2012	3000pcs/Reel

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

Parameter	Symbol	Value	Unit
Drain-Source Voltage (V _{GS} =0V)	V _{DS}	-20	V
Gate-Source Voltage (V _{GS} =0V,static)	V _{GS}	±10	V
Continuous Drain Current (T _C =25°C)	I _D	-7	A
Pulsed Drain Current	I _{DM}	15	A
Maximum Power Dissipation	P _D	0.35	W
Operating,Storage Temperature Range	T _J ,T _{STG}	-55~150	°C

Thermal Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance,Junction-to-Case	R _{θJC}	-	60	-	°C/W
Thermal Resistance,Junction-to-Ambient	R _{θJA}	-	125	-	°C/W

Electrical Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	-20	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=24V, V_{GS}=0V$	-	-	1	μA
Gate -Source Leakage Current	I_{GSS}	$V_{GS}=\pm 12V, V_{DS}=0V$	-	-	± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.4	-	1.4	V
Drain-Source On-stage Resistance	$R_{DS(on)}$	$V_{GS}=4.5V, I_D=5.8A$	-	-	21	m Ω
		$V_{GS}=2.5V, I_D=5A$	-	-	26	

Dynamic Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Input capacitance	C_{iss}	$V_{DS}=15V$ $V_{GS}=0V$ $f=1MHz$	-	640	-	pF
Output capacitance	C_{oss}		-	135	-	
Reverse transfer capacitance	C_{rss}		-	65	-	
Gate Resistance	R_g	$f=1MHz$	-	6	-	Ω
Total Gate Charge	Q_g	$V_{DS}=15V$ $V_{GS}=4.5V$ $I_D=5.8A$	-	10	-	nC
Gate Source Charge	Q_{gs}		-	2	-	
Gate Drain Charge	Q_{gd}		-	3	-	
Turn-on delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=15V$ $R_L=2.7\Omega$ $R_G=3\Omega$	-	9	-	ns
Rise time	t_r		-	16	-	
Turn-off delay Time	$t_{d(off)}$		-	45	-	
Fall time	t_f		-	21	-	

Reverse Diode Characteristics

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

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