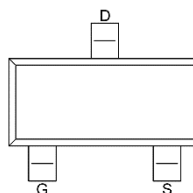
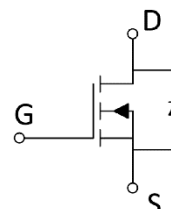
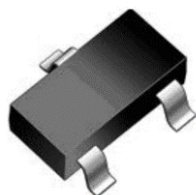


N-Channel Enhancement Mode MOSFET

Features

- $V_{DS}=20V, I_D=6A$
- $R_{DS(ON)}=24m\Omega$ (TYP.) $V_{GS}=4.5V$
- Reliable and Rugged
- Avalanche Rated
- Low On-Resistance

SOT23-3L



Applications

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

Ordering Information

Device	Package		Marking	Package Qty.
HMN3420	SOT-23	Pb-Free	AN/S20	3000pcs/Reel
AO3420	SOT23-3L	Pb-Free	AN/S20	3000pcs/Reel

Absolute Maximum Ratings ($T_C=25^{\circ}C$, 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}	± 12	V
Continuous Drain Current ($T_C=25^{\circ}C$)	I_D	6	A
Pulsed Drain Current	I_{DM}	-20	A
Maximum Power Dissipation ($T_C=25^{\circ}C$)	P_D	0.35	W
Operating, Storage Temperature Range	T_J, T_{STG}	-55~150	$^{\circ}C$

Thermal Characteristics

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

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	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.5	07	1	V
Drain-Source On-stage Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=6A$	-	19	24	m Ω
		$V_{GS}=4.5V, I_D=5A$	-	22	30	

Dynamic Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Input capacitance	C_{iss}	$V_{DS}=15V$ $V_{GS}=0V$ $f=1\text{MHz}$	-	630	-	pF
Output capacitance	C_{oss}		-	164	-	
Reverse transfer capacitance	C_{rss}		-	137	-	
Total Gate Charge	Q_g	$V_{DS}=15V$ $V_{GS}=4.5V$ $I_D=5.8A$	-	4.0	-	nC
Gate Source Charge	Q_{gs}		-	0.65	-	
Gate Drain Charge	Q_{gd}		-	1.5	-	
Turn-on delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=15V$ $R_L=2.7\Omega$ $R_G=3\Omega$	-	5.5	-	ns
Rise time	t_r		-	14	-	
Turn-off delay Time	$t_{d(off)}$		-	29	-	
Fall time	t_f		-	10.2	-	

Reverse Diode Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Body Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_{SD}=1A$	-	-	1	V

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