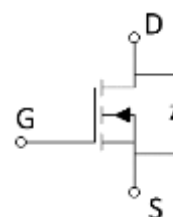
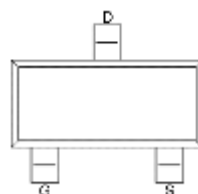


-30V_{DS}/±12V_{GS} P-Channel Enhancement Mode MOSFET

Features

- V_{DS}=-30V, I_D=-2.6A
- R_{DS(ON)}=110mΩ (TYP.) V_{GS}=10V
- R_{DS(ON)}=180mΩ (TYP.) V_{GS}=4.5V

SOT23-3



Applications

- Portable device
- Switch switching

Ordering Information

Device	package	Device Marking	Package Qty.
AO3409	SOT23-3	A9/R9	3000/PCS

Absolute Maximum Ratings (T_C=25°C, 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}	±12	V
Continuous Drain Current (T _C =25°C)	I _D	-2.6	A
Pulsed Drain Current	I _{DM}	12.4	A
Maximum Power Dissipation (T _C =25°C)	P _D	1.25	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}	-	100	-	°C/W

Electrical Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	-30	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=24V, V_{GS}=0V$	-	-	1	μA
Gate -Source Leakage Current	I_{GSS}	$V_{GS}=\pm 12V, V_{DS}=0V$	-	-	± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.5	0.96	1.3	V
Drain-Source On-stage Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=5.8A$	-	98	110	m Ω
		$V_{GS}=4.5V, I_D=5A$	-	110	185	

Dynamic Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Input capacitance	C_{iss}	$V_{DS}=15V$ $V_{GS}=0V$ $f=1MHz$	-	443	-	pF
Output capacitance	C_{oss}		-	38	-	
Reverse transfer capacitance	C_{rss}		-	25	-	
Gate Resistance	R_g	$f=1MHz$	-	1.4	-	Ω
Total Gate Charge	Q_g	$V_{DS}=15V$ $V_{GS}=4.5V$ $I_D=5.8A$	-	11	-	nC
Gate Source Charge	Q_{gs}		-	0.85	-	
Gate Drain Charge	Q_{gd}		-	1.4	-	
Turn-on delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=15V$ $R_L=2.7\Omega$ $R_G=3\Omega$	-	2.5	-	ns
Rise time	t_r		-	32	-	
Turn-off delay Time	$t_{d(off)}$		-	161	-	
Fall time	t_f		-	73	-	

Reverse Diode Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Body Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_{SD}=1A$	-	0.79	1.2	V
Reverse Recovery Time	t_{rr}	$V_{GS}=0V, I_{SD}=5A$ $d_i/d_t=100A/\mu s$	-	16	-	ns
Reverse Recovery Charge	Q_{rr}		-	9	-	nC

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