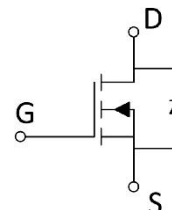
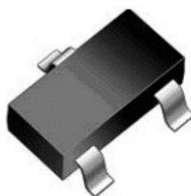


P-Channel Enhancement Mode MOSFET

Features

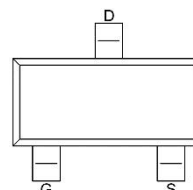
- $V_{DS}=-30V, I_D=-5.8A$
- $R_{DS(ON)}=65m\Omega$ (TYP.) $V_{GS}=10V$
- Reliable and Rugged
- Avalanche Rated
- Low On-Resistance

SOT23-3L



Applications

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



Ordering Information

Device	package	Device Marking	Package Qty.
CS3401	SOT-23	A1/R1	3000/PCS
CS3401	SOT-23-3L	X1/WA	3000/PCS

Absolute Maximum Ratings ($T_C=25^{\circ}C$, unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	-4.2	A
Pulsed Drain Current	I_{DM}	-16	A
Maximum Power Dissipation	P_D	1.25	W
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	100	$^{\circ}C/W$
Operating, Storage Temperature Range	T_J, T_{STG}	-55~150	$^{\circ}C$

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	1.8	1.1	V
Drain-Source On-stage Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=4.2A$	-	50	65	m Ω
		$V_{GS}=4.5V, I_D=4A$	-	60	75	

Dynamic Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Input capacitance	C_{iss}	$V_{DS}=15V$ $V_{GS}=0V$ $f=1MHz$	-	954	-	pF
Output capacitance	C_{oss}		-	115	-	
Reverse transfer capacitance	C_{rss}		-	77	-	
Gate Resistance	R_g	$f=1MHz$	-	1.4	-	Ω
Turn-on delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=15V$ $R_L=2.7\Omega$ $R_G=3\Omega$	-	-	6.3	ns
Rise time	t_r		-	-	3.2	
Turn-off delay Time	$t_{d(off)}$		-	-	38.2	
Fall time	t_f		-	-	12	

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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