

N-Channel Enhancement Mode MOSFET

Features

- $V_{DS}=30V, I_D=4A$
- $R_{DS(ON)}=55m\Omega$ (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 conversiong

Ordering Information

Device	package	Device Marking	Package Qty.
AT3402GE	SOT-23	X0/R0	3000/PCS
AT3402GE	SOT23-3L	A0/R0	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	A
Pulesd Drain Current	I_{DM}	15	A
Maximum Power Dissipation	P_D	0.35	W
Operating,Storage Temperature Range	T_J, T_{STG}	-55~150	$^{\circ}C$
Thermal Resistance,Junction-to-Ambient	$R_{\theta JA}$	357	$^{\circ}C/W$

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	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.6	0.85	1.4	V
Drain-Source On-stage Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=5.8A$	-	35	55	m Ω
		$V_{GS}=4.5V, I_D=5A$	-	39	70	
Body Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_{SD}=1A$	-	-	1	V

Dynamic Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Input capacitance	C_{iss}	$V_{DS}=15V$	-	390	-	pF
Output capacitance	C_{oss}	$V_{GS}=0V$	-	54.5	-	
Reverse transfer capacitance	C_{rss}	$f=1MHz$	-	41	-	
Gate Resistance	R_g	$f=1MHz$	-	3	-	Ω
Total Gate Charge	Q_g	$V_{DS}=15V$	-	4.34	-	nC
Gate Source Charge	Q_{gs}	$V_{GS}=4.5V$	-	0.6	-	
Gate Drain Charge	Q_{gd}	$I_D=5.8A$	-	1.38	-	
Turn-on delay Time	$t_{d(on)}$	$V_{GS}=10V$	-	3.3	-	ns
Rise time	t_r	$V_{DS}=15V$	-	1	-	
Turn-off delay Time	$t_{d(off)}$	$R_L=2.7\Omega$	-	21.7	-	
Fall time	t_f	$R_G=3\Omega$	-	2.1	-	

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