

• General Description

This device is suitable for use as a load switch or in PWM applications.

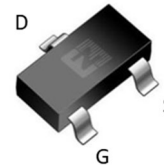
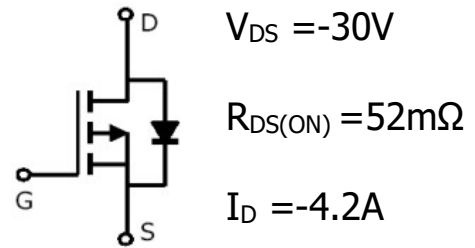
• Features

- Low $R_{DS(ON)}$ to minimize conductive loss
- Low Gate Charge for fast switching

• Application

- PWM
- SMPS 2nd Synchronous Rectifier
- BLDC Motor driver

• Product Summary



SOT-23

• Ordering Information:

Part NO.	ZM3401
Marking	3401
Packing Information	REEL TAPE
Basic ordering unit (pcs)	3000

• Absolute Maximum Ratings ($T_c = 25^\circ C$)

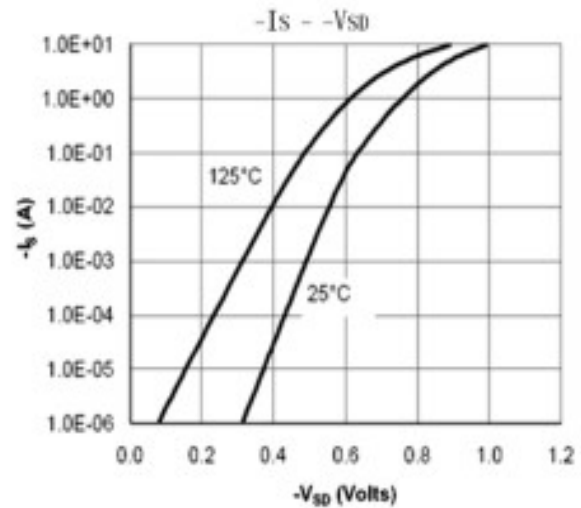
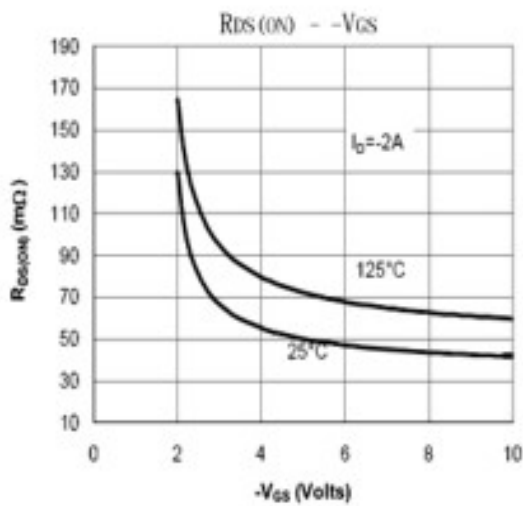
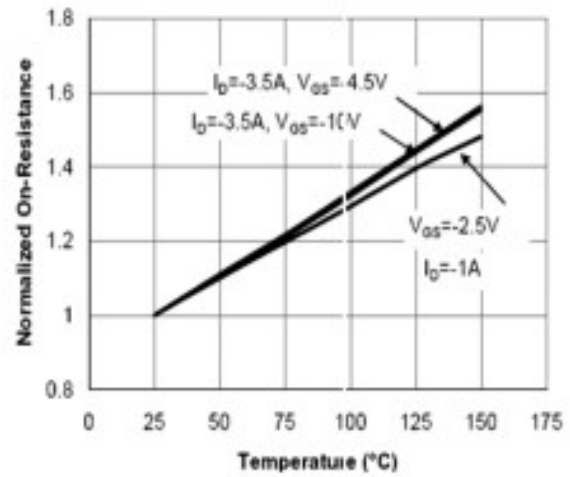
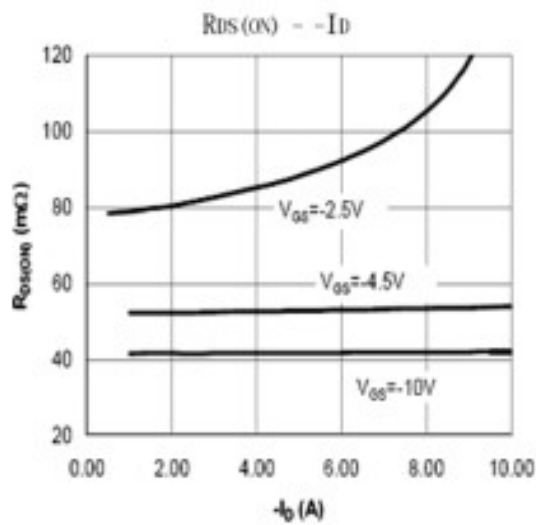
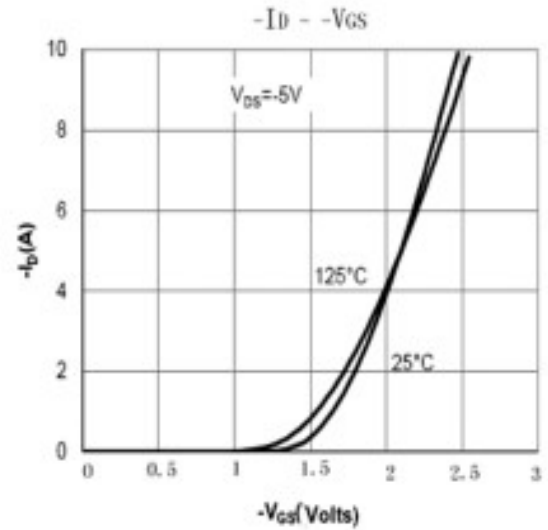
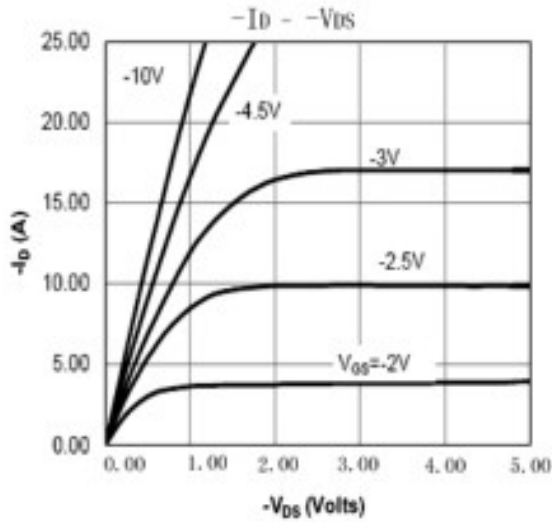
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	$I_{D@TC=25^\circ C}$	-4.2	A
	$I_{D@TC=75^\circ C}$	-3.2	A
	$I_{D@TC=100^\circ C}$	-2.6	A
Pulsed Drain Current	I_{DM}	-12	A
Total Power Dissipation($T_A=25^\circ C$)	$P_{D@TA=25^\circ C}$	1.4	W
Total Power Dissipation($T_A=70^\circ C$)	$P_{D@TA=70^\circ C}$	1.0	W
Operating Junction Temperature	T_J	-55 to 150	$^\circ C$
Storage Temperature	T_{STG}	-55 to 150	$^\circ C$

•Electronic Characteristics

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS} = 0V, I_D = -250\mu A$	-30			V
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{GS} = V_{DS}, I_D = -250\mu A$	-0.5		-1.3	V
Drain-Source Leakage Current	I_{DSS}	$V_{DS} = -24V, V_{GS} = 0V$			-1.0	μA
		$V_{DS} = -24V, V_{GS} = 0V$ $T_J = 55^\circ C$			-5.0	μA
Gate- Source Leakage Current	I_{GSS}	$V_{GS} = \pm 12V, V_{DS} = 0V$			± 100	nA
Static Drain-source On Resistance	$R_{DS(ON)}$	$V_{GS} = -10V, I_D = -4.2A$		52	65	m Ω
		$V_{GS} = -10V, I_D = -4.2A$ $T_J = 125^\circ C$			75	m Ω
		$V_{GS} = -4.5V, I_D = -4.0A$		60	75	m Ω
		$V_{GS} = -2.5V, I_D = -1.0A$		80	120	m Ω
Forward Transconductance	g_{FS}	$V_{DS} = -5V, I_D = -5A$	7		11	S
Source-Drain Voltage	V_{SD}	$V_{GS} = 0V, I_S = -1A$		-0.75	-1.0	V

•Electronic Characteristics

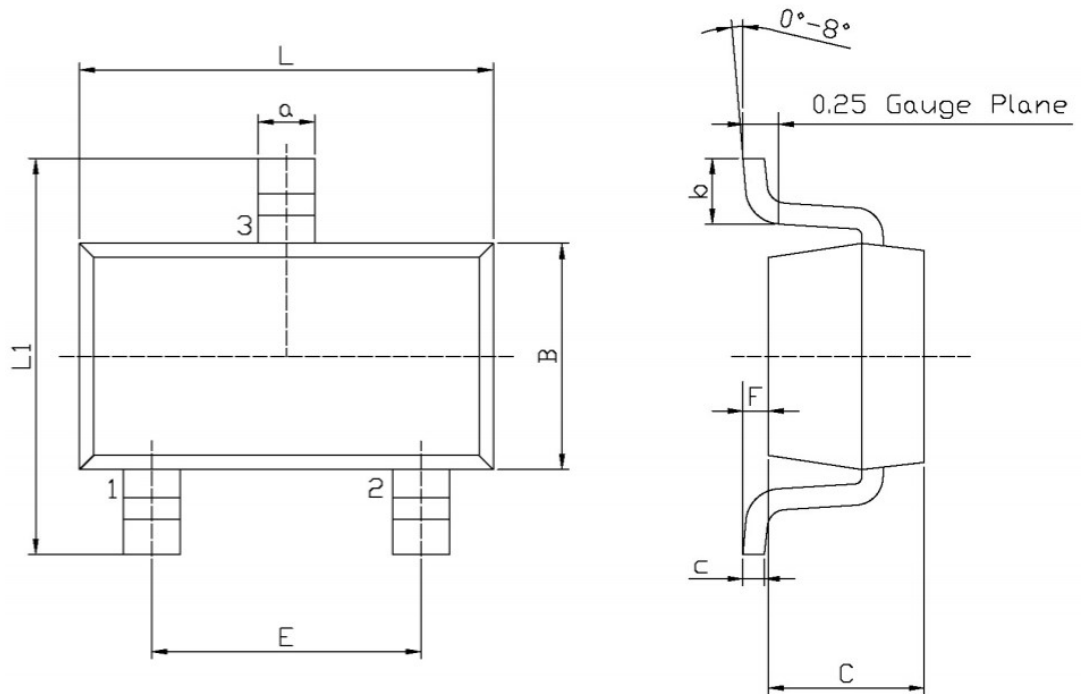
Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Input capacitance	C_{iss}	$V_{DS} = -25V$ $f = 1MHz$	-	957	-	pF
Output capacitance	C_{oss}		-	115	-	
Reverse transfer capacitance	C_{rss}		-	77	-	
Turn – on delay time	$t_{d(on)}$	$V_{GS} = -10V$		6.3		ns
Rise Time	t_r	$R_L = 3.6\Omega$		3.2		ns
Turn - off delay time	$t_{d(off)}$	$V_{DS} = -15V$		38.2		ns
Fall time	t_f	$R_{GEN} = 6\Omega$		12		ns





• **Dimensions (SOT-23)**

Unit: mm



Unit: mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
L	2.82	3.02	a	0.35	0.50
B	1.50	1.70	C	0.10	0.20
C	0.90	1.30	b	0.35	0.55
L1	2.60	3.00	F	0	0.15
E	1.80	2.00			