

**• General Description**

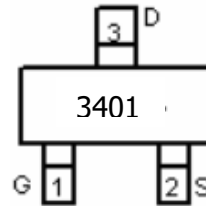
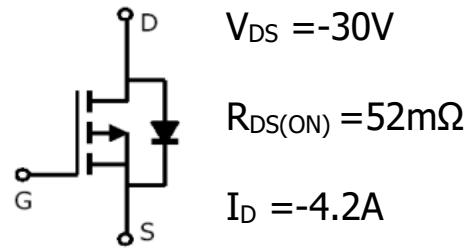
This device is suitable for use as a load switch or in PWM applications.

**• Features**

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

**• Application**

- PWM
- SMPS 2<sup>nd</sup> 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 ( $T_c = 25^\circ C$ )**

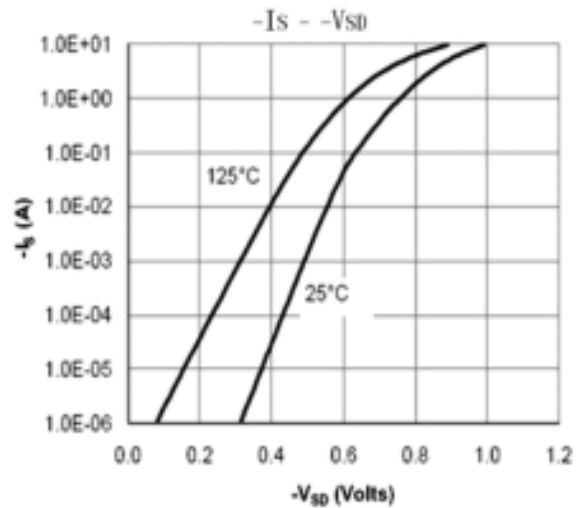
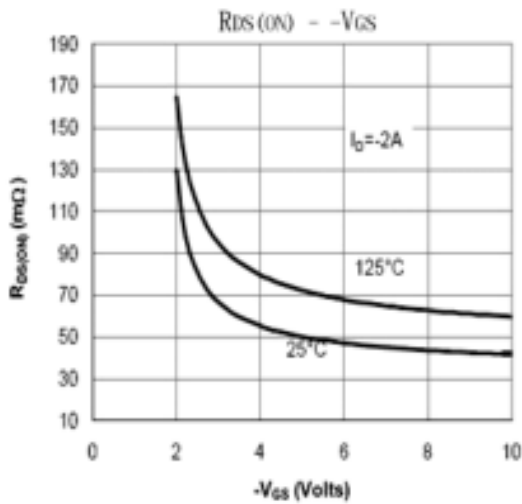
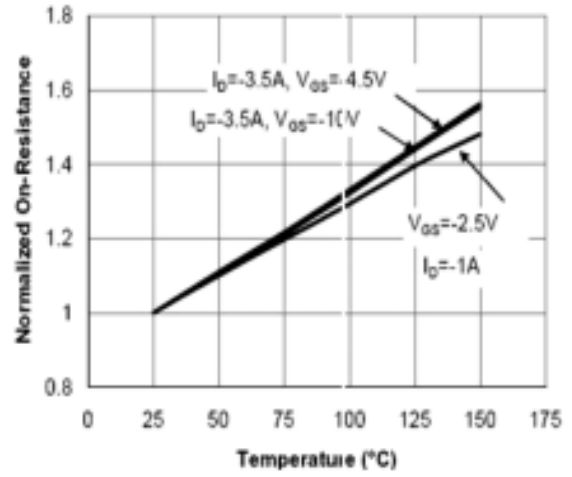
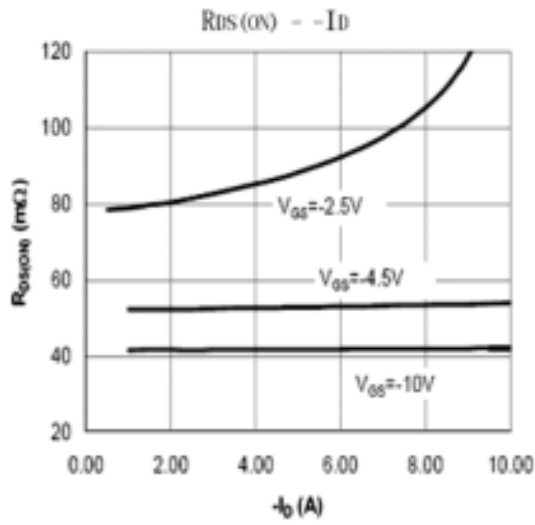
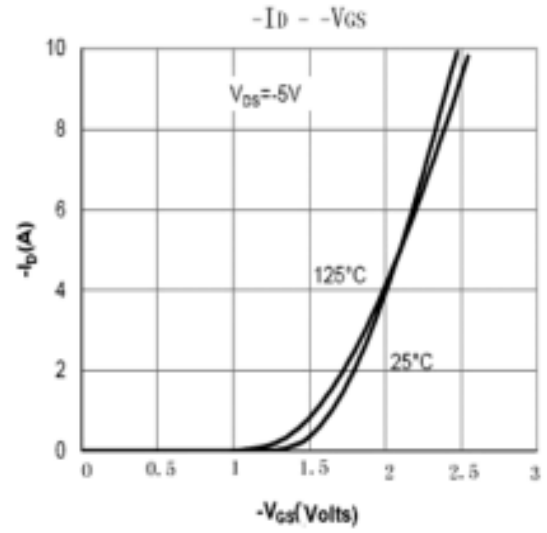
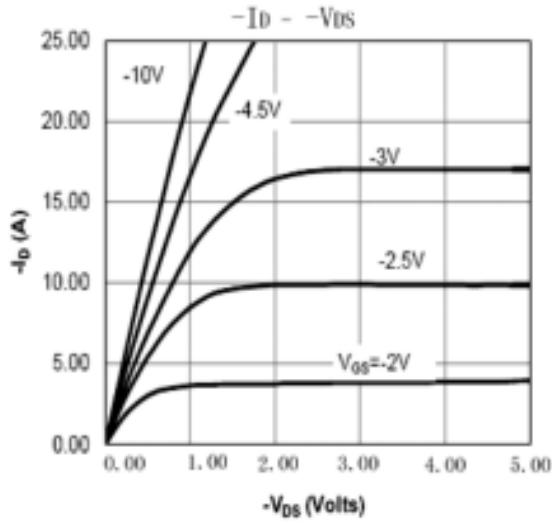
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	-30	V
Gate-Source Voltage	$V_{GS}$	$\pm 12$	V
Continuous Drain Current	$I_{D@TC=25^\circ C}$	-4.2	A
	$I_{D@TC=75^\circ C}$	-3.2	A
	$I_{D@TC=100^\circ C}$	-2.6	A
Pulsed Drain Current	$I_{DM}$	-12	A
Total Power Dissipation( $T_A=25^\circ C$ )	$P_D@T_A=25^\circ C$	1.4	W
Total Power Dissipation( $T_A=70^\circ C$ )	$P_D@T_A=70^\circ C$	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	$\mu A$
		$V_{DS} = -24V, V_{GS} = 0V$ $T_J = 55^\circ C$			-5.0	$\mu A$
Gate- Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 12V, V_{DS} = 0V$			$\pm 100$	nA
Static Drain-source On Resistance	$R_{DS(ON)}$	$V_{GS} = -10V, I_D = -4.2A$		52	65	m $\Omega$
		$V_{GS} = -10V, I_D = -4.2A$ $T_J = 125^\circ C$			75	m $\Omega$
		$V_{GS} = -4.5V, I_D = -4.0A$		60	75	m $\Omega$
		$V_{GS} = -2.5V, I_D = -1.0A$		80	120	m $\Omega$
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**

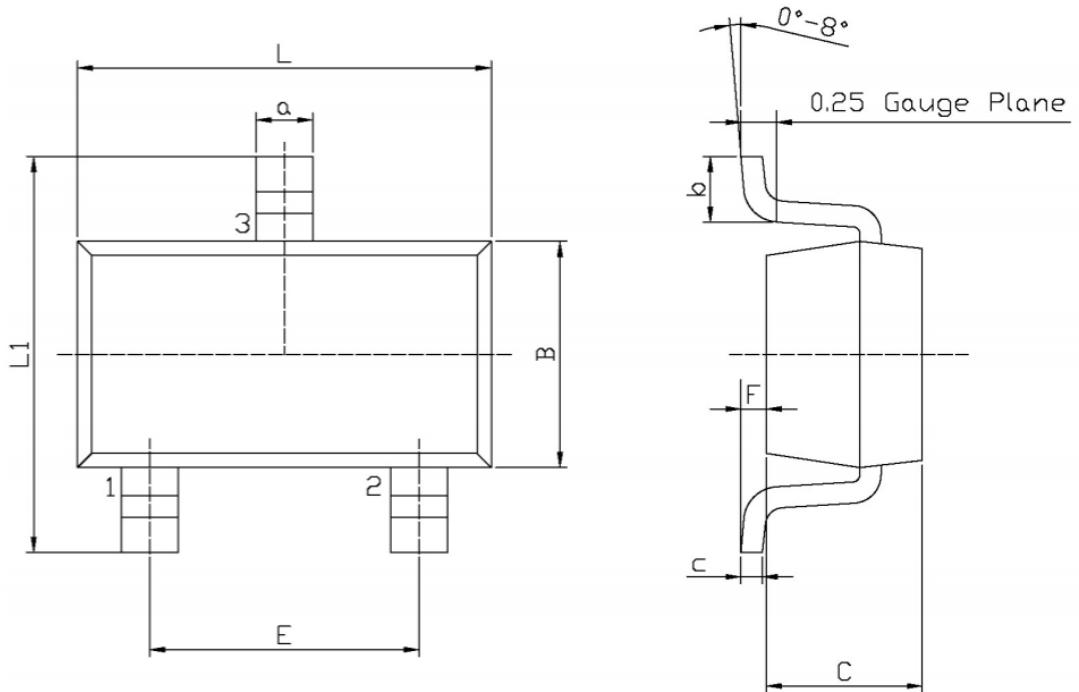
Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Input capacitance	$C_{iss}$	$V_{GS} = 0V$	-	957	-	pF
Output capacitance	$C_{oss}$	$V_{DS} = -15V$	-	115	-	
Reverse transfer capacitance	$C_{rss}$	$f = 1MHz$	-	77	-	
Turn – on delay time	$t_{d(on)}$	$V_{GS} = -10V$		6.3		ns
Rise Time	$t_r$	$R_L = 3.6\Omega$		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			