

### FEATURES

- High dense cell design for extremely low  $R_{DS(ON)}$ .
- Exceptional on-resistance and maximum DC current capability

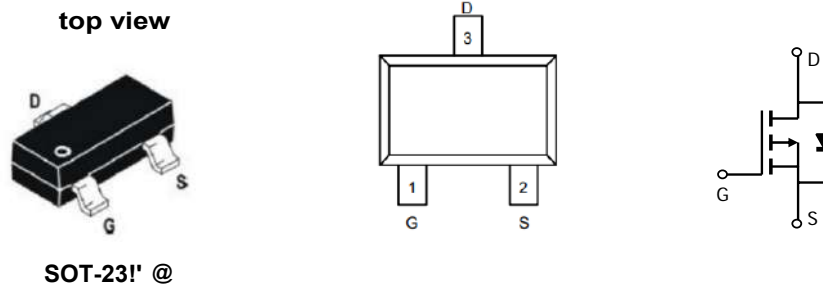
### Application

- PWM applications
- Load switch
- Power management

### Product Summary



$V_{DS}$	-30	V
$R_{DS(on),Max} @ V_{GS}=-10V$	65	mΩ
$I_D$	-4.2	A



### Maximum ratings ( $T_a=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	-30	V
Drain Current – Continuous	$I_D$	-4.2	A
Drain Current- Continuous <sup>A</sup>	$I_D(T_a=70^{\circ}C)$	-3.5	A
Pulsed Drain Current <sup>B</sup>	$I_{DM}$	-30	A
Gate-Source Voltage	$V_{GS}$	±12	V
Total Power Dissipation <sup>A</sup>	$P_D$	1.4	W
Total Power Dissipation <sup>A</sup>	$P_D(T_a=70^{\circ}C)$	1.0	W
Operating and Storage Junction Temperature Range	$T_J, T_{STG}$	-55 to 150	°C
Maximum Junction-to-Ambient <sup>A</sup>	$R_{\theta JA}$	125	°C/W
Maximum Junction-to-Lead <sup>C</sup>	$R_{\theta JL}$	60	°C/W

**Electrical characteristics (T<sub>a</sub>=25°C unless otherwise noted)**

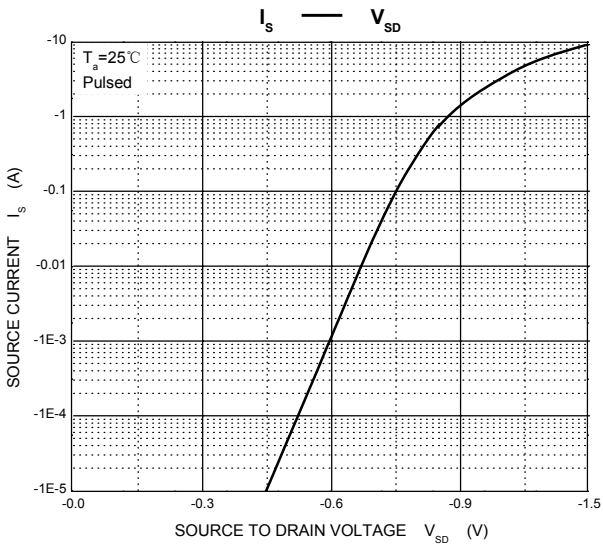
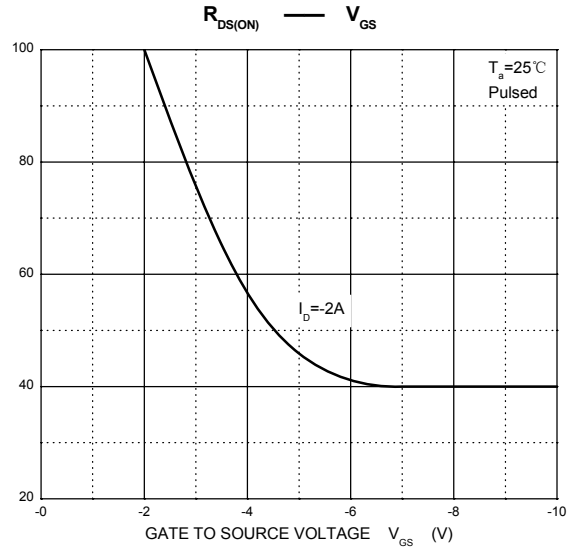
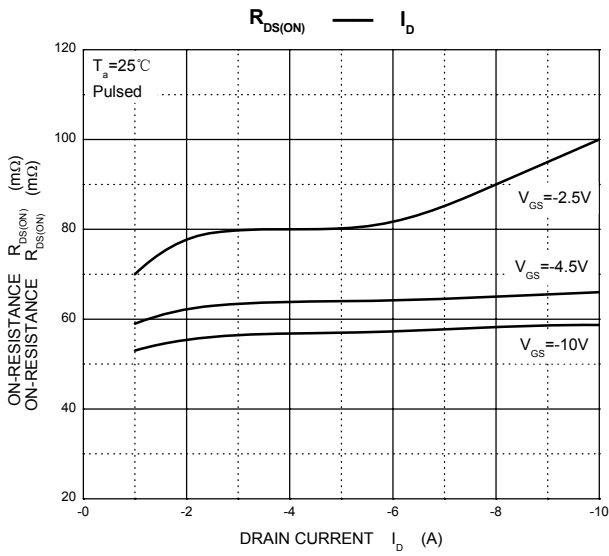
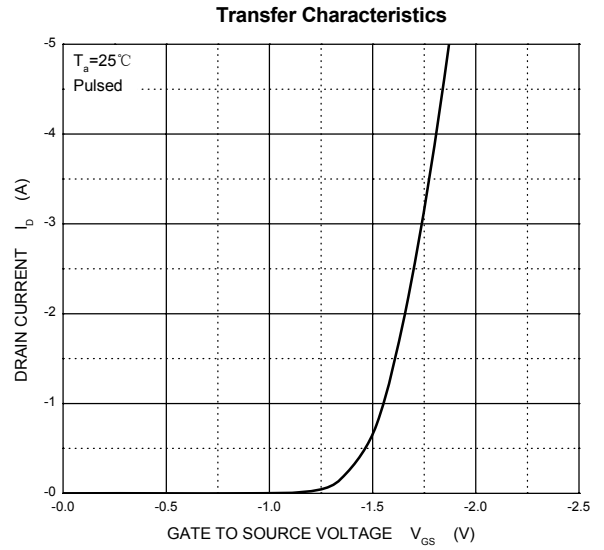
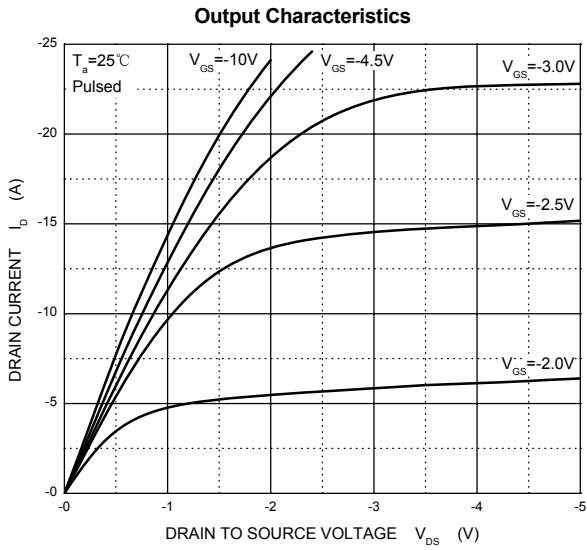
Parameter	Symbol	Test Condition	Min	Typ	Max	Units
<b>Off characteristics</b>						
Drain-source breakdown voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = -250μA	-30			V
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> = -24V, V <sub>GS</sub> = 0V			-1	μA
Gate-source leakage current	I <sub>GSS</sub>	V <sub>GS</sub> = ±12V, V <sub>DS</sub> = 0V			±100	nA
<b>On characteristics</b>						
Drain-source on-resistance (note 1)	R <sub>DS(on)</sub>	V <sub>GS</sub> = -10V, I <sub>D</sub> = -4A			65	mΩ
		V <sub>GS</sub> = -4.5V, I <sub>D</sub> = -3A			75	mΩ
		V <sub>GS</sub> = -2.5V, I <sub>D</sub> = -1A			100	mΩ
Forward tranconductance (note 1)	g <sub>FS</sub>	V <sub>DS</sub> = -5V, I <sub>D</sub> = -5A	7			S
Gate threshold voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = -250μA	-0.5		-1.5	V
<b>Dynamic characteristics (note 2)</b>						
Input capacitance	C <sub>iss</sub>	V <sub>DS</sub> = -15V, V <sub>GS</sub> = 0V, f = 1MHz		954		pF
Output capacitance	C <sub>oss</sub>			115		pF
Reverse transfer capacitance	C <sub>rss</sub>			77		pF
<b>Switching characteristics (note 2)</b>						
Turn-on delay time	t <sub>d(on)</sub>	V <sub>GS</sub> = -10V, V <sub>DS</sub> = -15V, R <sub>L</sub> = 3.6Ω, R <sub>GEN</sub> = 6Ω			6.3	ns
Turn-on rise time	t <sub>r</sub>				3.2	ns
Turn-off delay time	t <sub>d(off)</sub>				38.2	ns
Turn-off fall Time	t <sub>f</sub>				12	ns
<b>Drain-source diode characteristics and maximum ratings</b>						
Diode forward voltage (note 1)	V <sub>SD</sub>	I <sub>S</sub> = -1A, V <sub>GS</sub> = 0V			-1	V

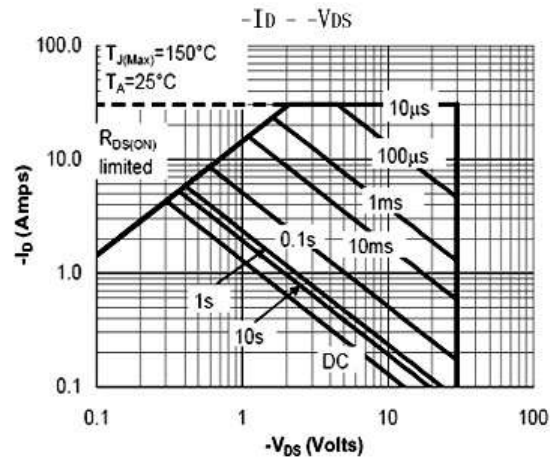
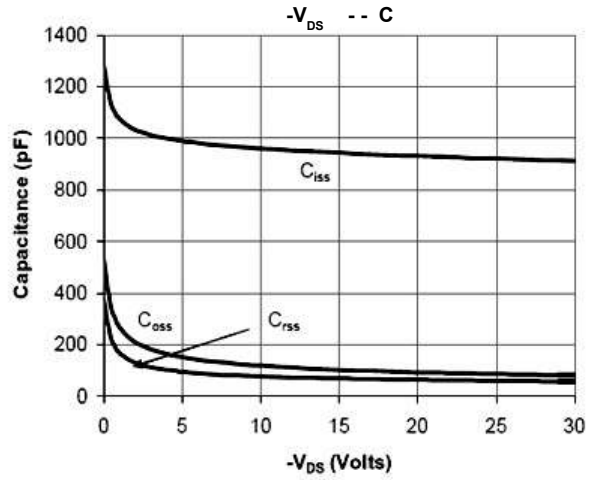
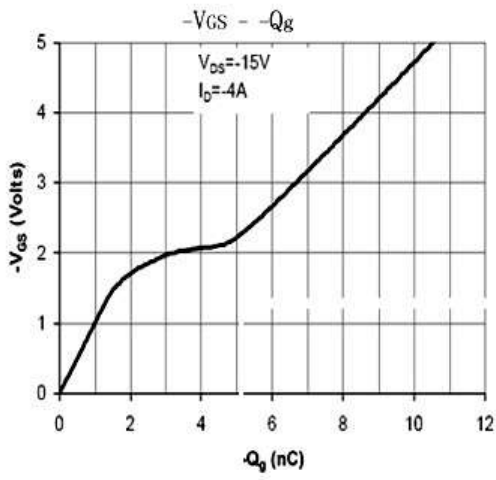
**Note :**

1. Pulse Test : Pulse width ≤ 300μs, duty cycle ≤ 2%.
2. These parameters have no way to verify.



### Typical Characteristics



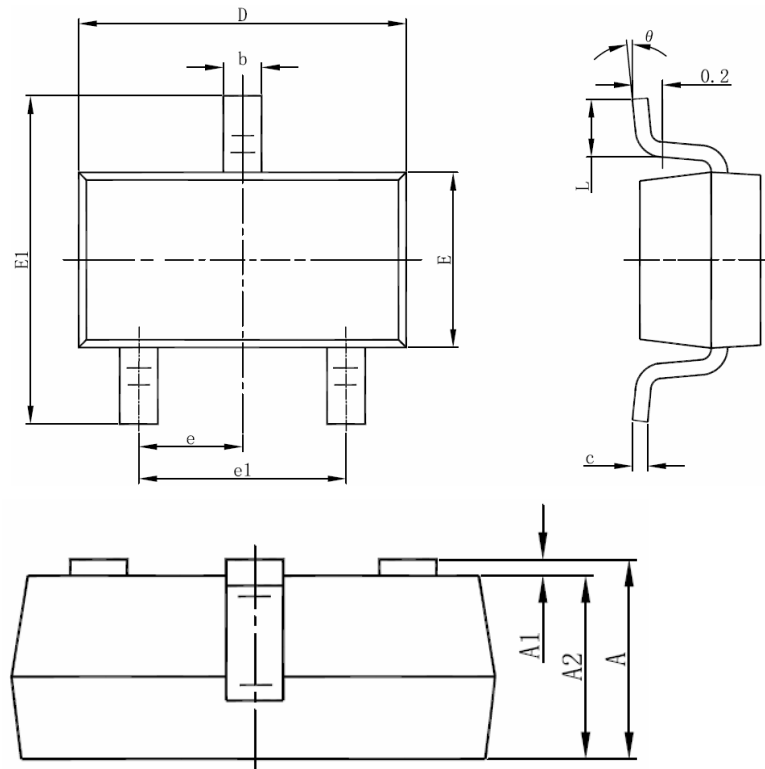


## Ordering and Marking Information

Ordering Device No.	Marking	Package	Packing	Quantity
ASDM3401ZB-R	3401	SOT23-3	Tape&Reel	3000/Reel

PACKAGE	MARKING
SOT23-3	<div style="border: 1px solid black; display: inline-block; padding: 5px;">3401</div>

## SOT-23-3L PACKAGE INFORMATION



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
$\theta$	0°	8°	0°	8°

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