

ATM3400NSA

N-Channel Enhancement Mode Field Effect Transistor

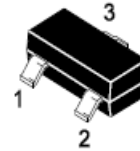
Drain-Source Voltage: 30V

Drain Current: 5.8A

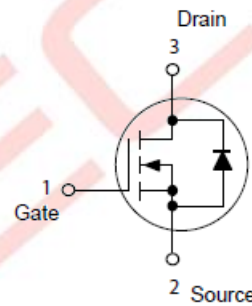
Features

- Trench FET Power MOSFET
- Excellent $R_{DS(on)}$ and Low Gate Charge
- $R_{DS(ON)} < 35m\Omega$ ($V_{GS} = 10V$)
- $R_{DS(ON)} < 40m\Omega$ ($V_{GS} = 4.5V$)
- $R_{DS(ON)} < 52m\Omega$ ($V_{GS} = 2.5V$)

SOT-23



1 Gate 2 Source 3 Drain



Application

- DC/DC Converter
- Load Switch for Portable Devices
- Battery Switch

Absolute maximum ratings (Ta=25°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	5.8	A
Pulsed Drain Current ¹⁾	I_{DM}	30	A
Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient ²⁾	$R_{\theta JA}$	357	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55~ +150	°C

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Electrical characteristics (T_A=25 °C, unless otherwise noted)

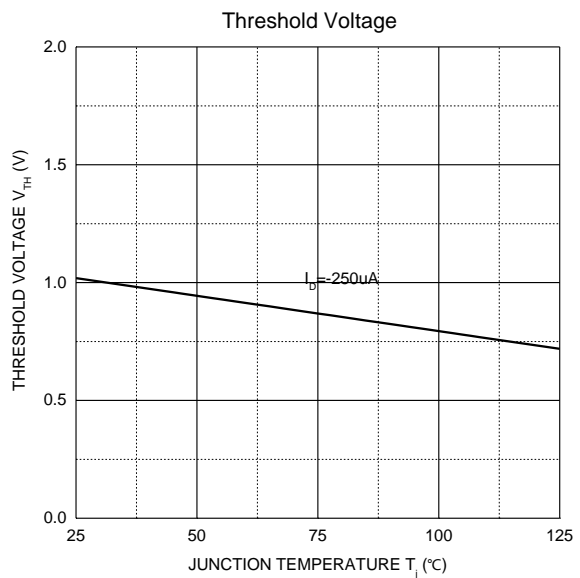
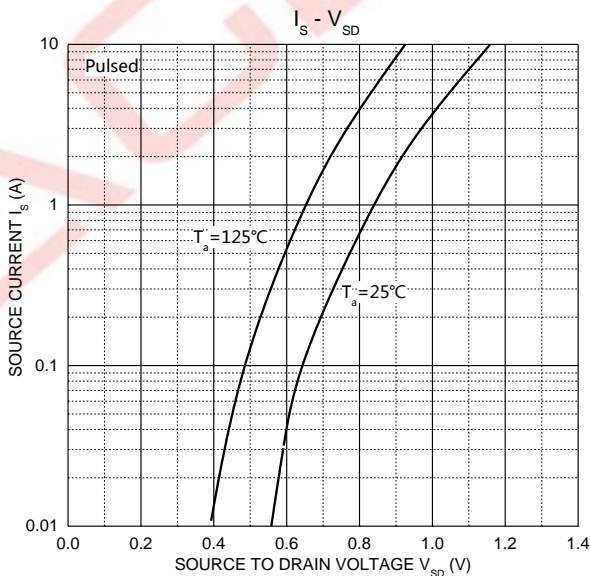
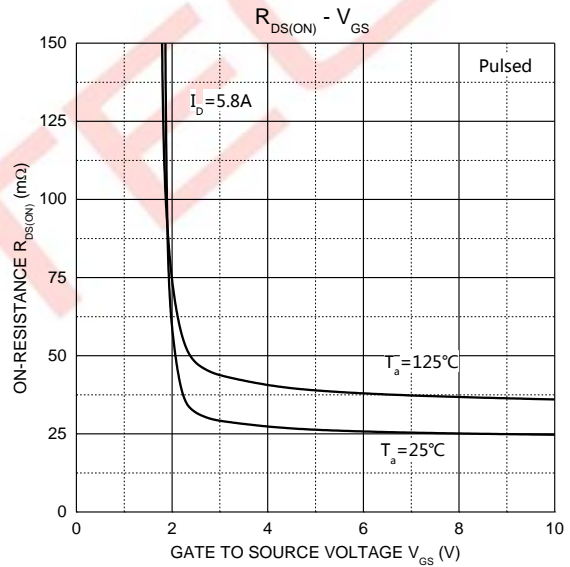
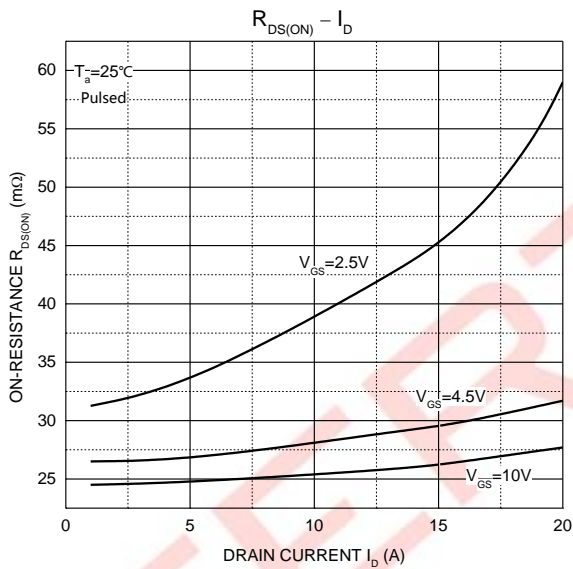
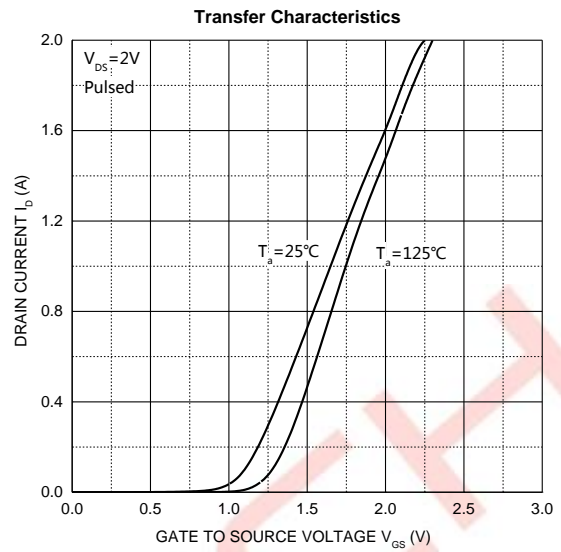
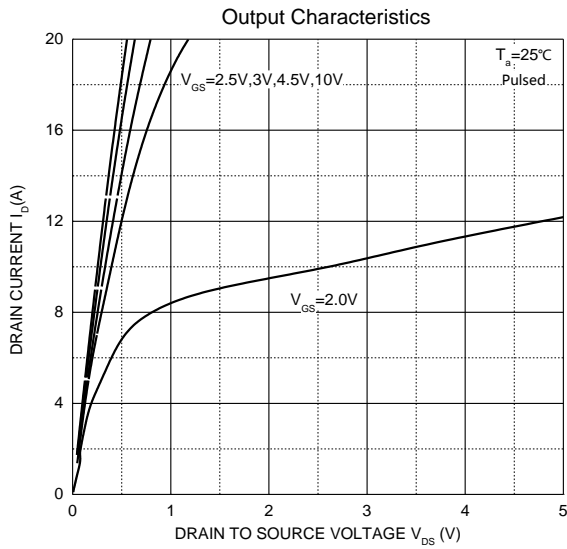
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =250μA	30			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =24V, V _{GS} = 0V			1	μA
Gate-body leakage current	I _{GSS}	V _{GS} =±12V, V _{DS} = 0V			±0.1	μA
Gate threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.7		1.4	V
Drain-source on-resistance ³⁾	R _{DS(on)}	V _{GS} =10V, I _D =5.8A		27	35	mΩ
		V _{GS} =4.5V, I _D =5A		29	40	
		V _{GS} =2.5V, I _D =4A		38	52	
Forward transconductance	g _{FS}	V _{DS} =5V, I _D =5A	8			S
Dynamic characteristics⁴⁾						
Input Capacitance	C _{iss}	V _{DS} =15V, V _{GS} =0V, f =1MHz			1050	pF
Output Capacitance	C _{oss}			99		
Reverse Transfer Capacitance	C _{rss}			77		
Gate resistance	R _g	V _{DS} =0V, V _{GS} =0V, f =1MHz			3.6	Ω
Switching Characteristics⁴⁾						
Turn-on delay time	t _{d(on)}	V _{GS} =10V, V _{DS} =15V, R _L =2.7Ω, R _{GEN} =3Ω			5	ns
Turn-on rise time	t _r				7	
Turn-off delay time	t _{d(off)}				40	
Turn-off fall time	t _f				6	
Source-Drain Diode characteristics						
Diode Forward voltage ³⁾	V _{DS}	V _{GS} =0V, I _S =1A		0.7	1.3	V

Note:

- 1) Repetitive Rating : Pulse width limited by maximum junction temperature.
- 2) Surface Mounted on FR4 Board, t < 5 sec.
- 3) Pulse Test : Pulse Width≤300μs, Duty Cycle ≤ 2%.
- 4) Guaranteed by design, not subject to production testing.

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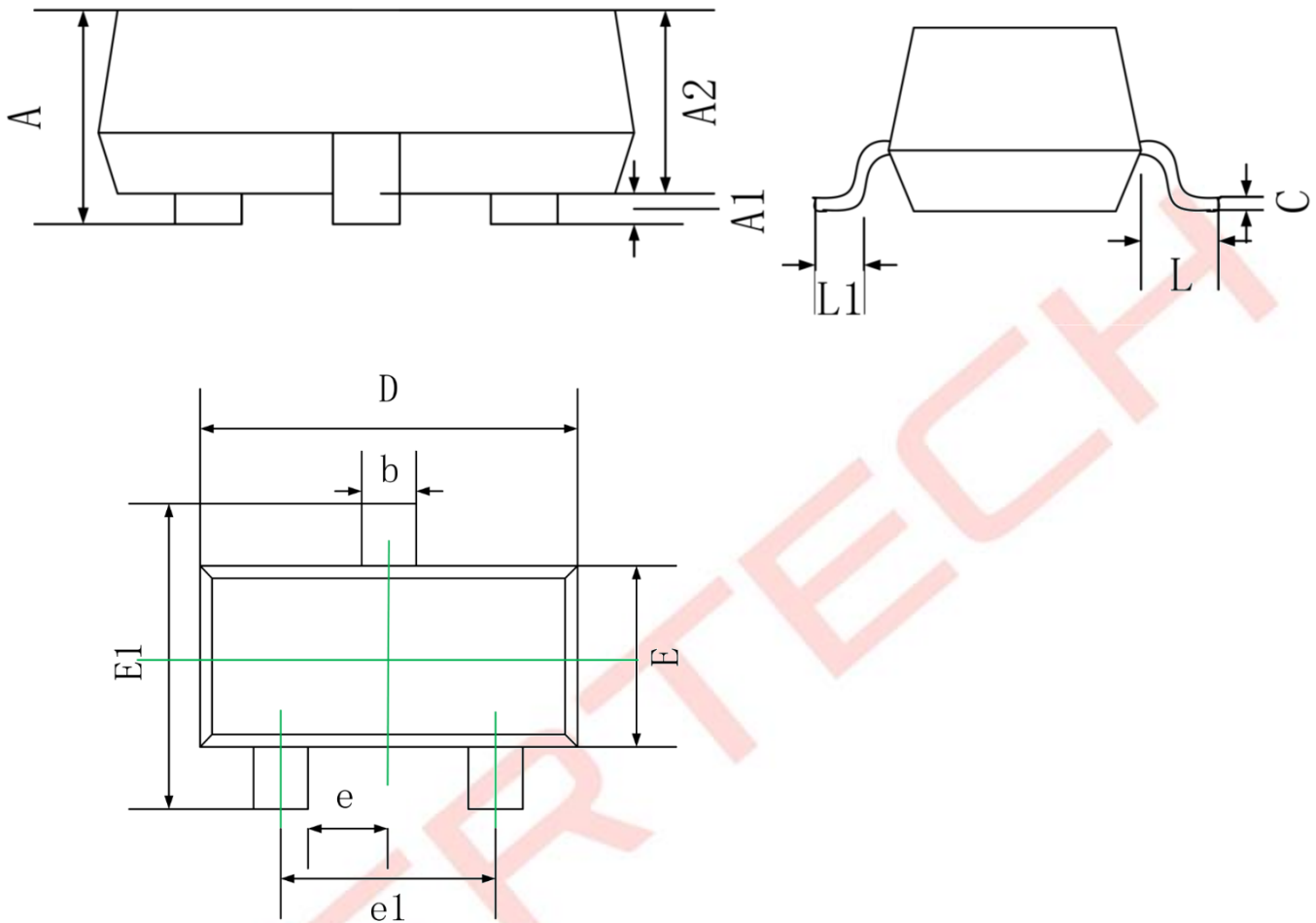
Typical Characteristics Curves



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Package Outline

SOT-23

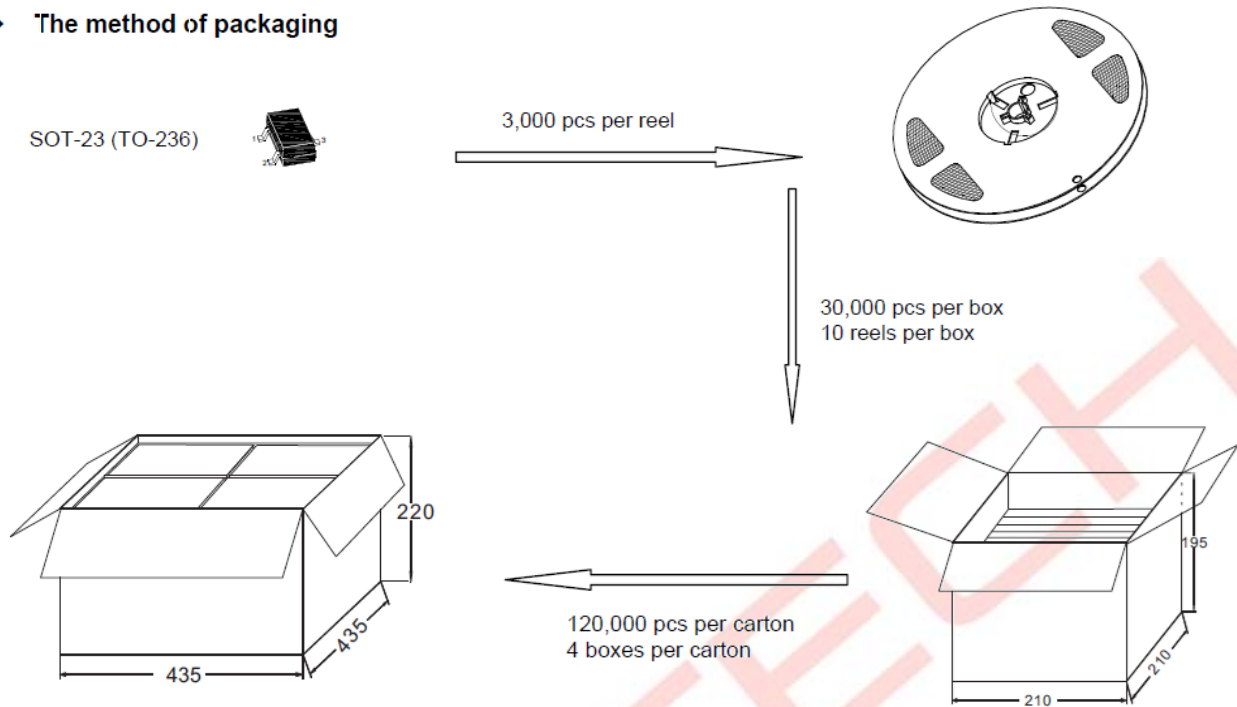


Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.90	1.15
A1	0.00	0.10
A2	0.90	1.05
b	0.30	0.50
c	0.08	0.15
D	2.80	3.00
E	1.20	1.40
E1	2.25	2.55
e	0.95 REF.	
e1	1.80	2.00
L	0.55 REF.	
L1	0.30	0.50

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Package Specifications

◆ The method of packaging



◆ Embossed tape and reel data

