

**DESCRIPTION**

The AM01N70 is available in SOT-23 Package.

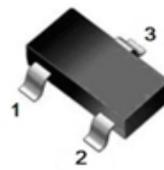
BVDSS	RDSON	ID
700V	8.3Ω	1A

APPLICATION

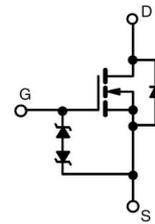
- Low Power Battery chargers
- SMPS
- Low Power, Ballast, CFL

PIN DESCRIPTION**ORDERING INFORMATION**

Package Type	Part Number	
SOT-23 SPQ: 3,000pcs/Reel	E3	AM01N70E3VR
Note	V: Halogen free Package R: Tape & Reel	
AiT provides all RoHS products		



SOT-23



Pin#	Symbol	Function
1	G	Gate
2	S	Source
3	D	Drain

ABSOLUTE MAXIMUM RATINGS

T_A=25°C Unless otherwise noted

V _{DS} , Drain-Source Voltage	700V	
V _{GS} , Gate-Source Voltage	±30V	
I _D , Continuous Drain Current	T _A =25°C	1A
	T _A =100°C	0.6A
I _{DM} ⁽¹⁾ , Pulsed Drain Current	4A	
E _{AS} ⁽²⁾ , Single Pulse Avalanche	6.05mJ	
T _J , Operating Junction Temperature	-55°C~+150°C	
T _{STG} , Storage Temperature	-55°C~+150°C	
T _L , Lead Temperature (1/16" from case for 10sec.)	300°C	

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

(1) Repetitive rating, pulse width limited by junction temperature T_J(MAX)=150°C.

(2) The EAS data shows Max. rating. The test condition is V_{DD}=-90V, V_{DS}=650V, L=10mH



ELECTRICAL CHARACTERISTICS

T_J=25°C, unless otherwise noted.

Parameter	Symbol	Conditions	Min	Typ.	Max	Unit
Static Parameters						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250μA	700	-	-	V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250uA	2	3	4	V
Gate-Body Leakage	I _{GSS}	V _{DS} =0V, V _{GS} =±30V	-	-	±1	μA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =650V, V _{GS} =0V	-	-	10	μA
		V _{DS} =650V, V _{GS} =0V, T _J =150°C	-	-	100	
On-State Drain Current	R _{DS(ON)}	V _{GS} =10V, I _D =0.5A	-	8.3	9.5	Ω
Body Diode Forward Voltage	V _{SD}	V _{GS} =0V, I _{SD} =1A, T _J =25°C	-	0.98	1.4	V
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =25V, V _{GS} =0V, f=100KHz	-	38	-	pF
Output Capacitance	C _{oss}		-	34	-	
Reverse Transfer Capacitance	C _{rss}		-	4	-	
Total Gate Charge	Q _g	V _{DD} =100V, V _{GS} =10V, I _D =1A	-	9.4	-	nC
Gate-Source Charge	Q _{gs}		-	3.1	-	
Gate-Drain Charge	Q _{gd}		-	1.6	-	
Switching Characteristics						
Turn-on Delay Time	t _(on)	V _{DS} =100V, V _{GS} =10V, R _G =25Ω, I _D =1A	-	3.5	-	ns
Rise Time	t _r		-	16	-	
Turn-Off Delay Time	t _(off)		-	14	-	
Fall Time	t _f		-	43.3	-	
Drain-Source Body Diode Characteristics						
Forward Voltage	V _{SD}	V _{GS} =0V, I _F =I _S	-	0.98	-	V
Continuous Current	I _S	-	-	-	1	A
Body Diode Reverse Recovery Time	T _{rr}	I _F =1A, di/dt =100A/us	-	204	-	nS
Body Diode Reverse Recovery Charge	Q _{rr}		-	402	-	μC



TYPICAL PERFORMANCE CHARACTERISTICS

Fig 1. Output Characteristics

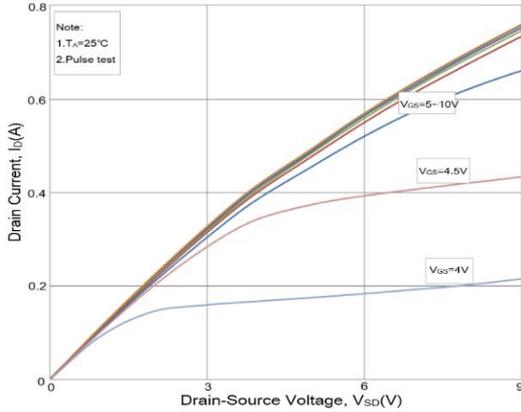


Fig 2. $R_{DS(on)}$ vs. I_D

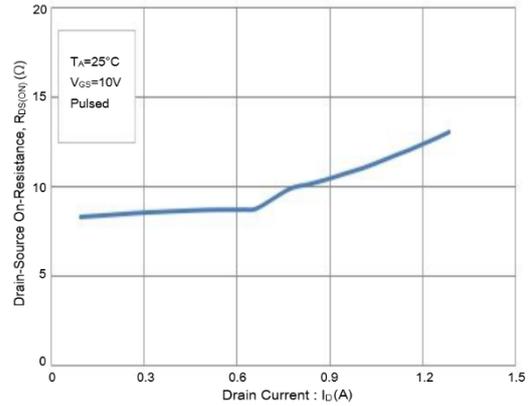


Fig 3. Gate Charge characteristics

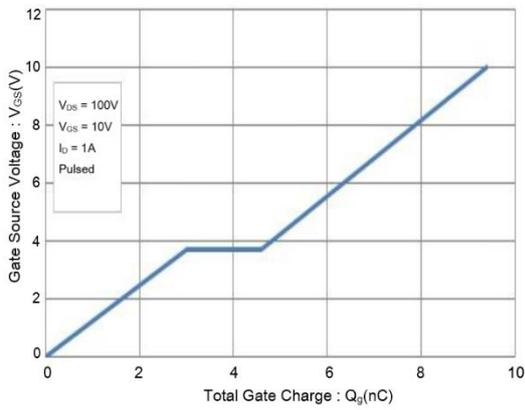


Fig 4. I_D vs. V_{GS}

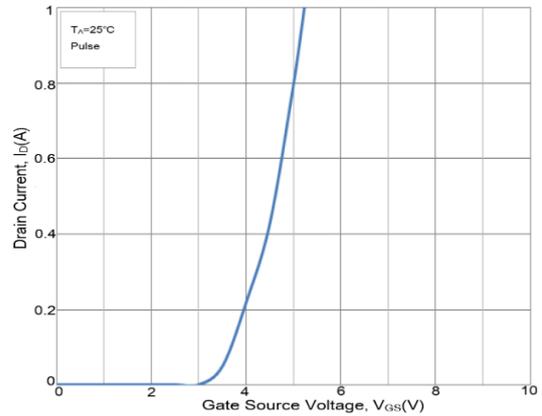


Fig 5. I_S vs. V_{SD}

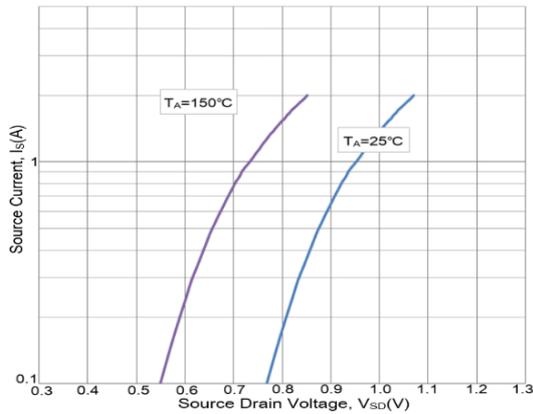


Fig 6. Breakdown vs. Temperature

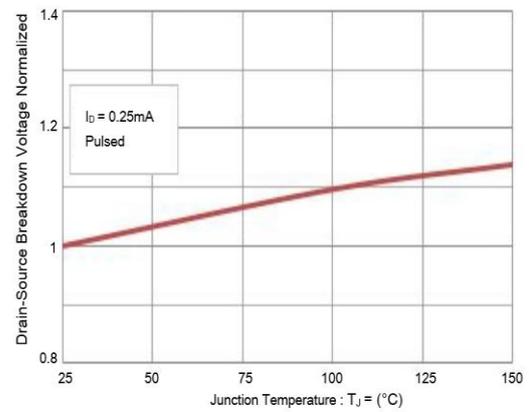




Fig 7. On-Resistance vs. Junction Temperature

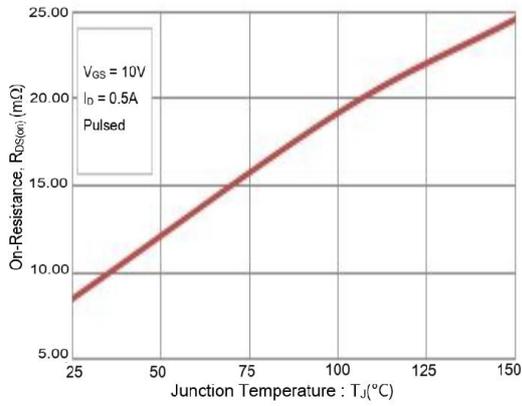


Fig 8. V_{th} vs. Junction Temperature

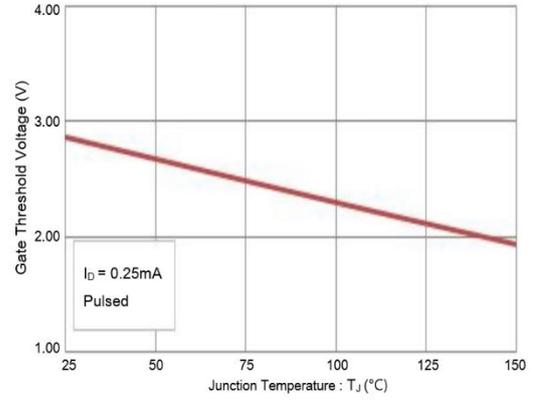
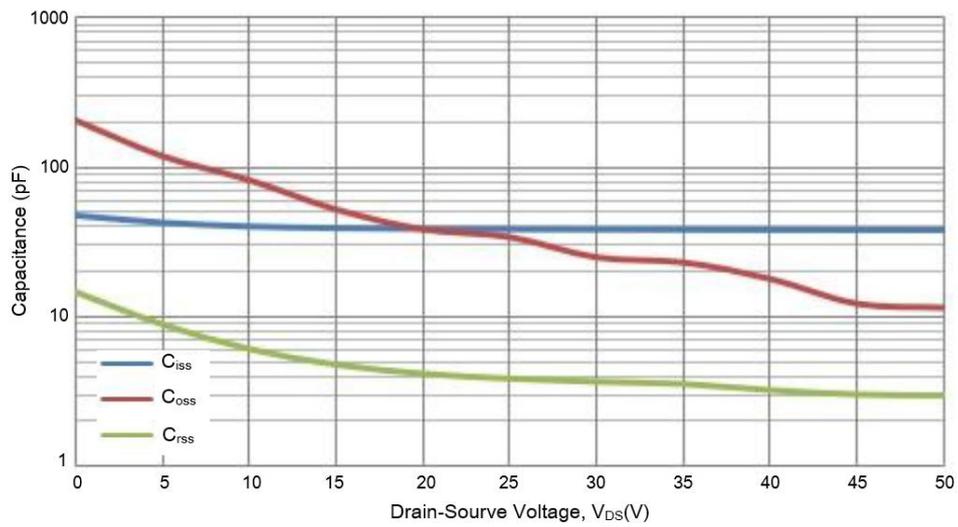


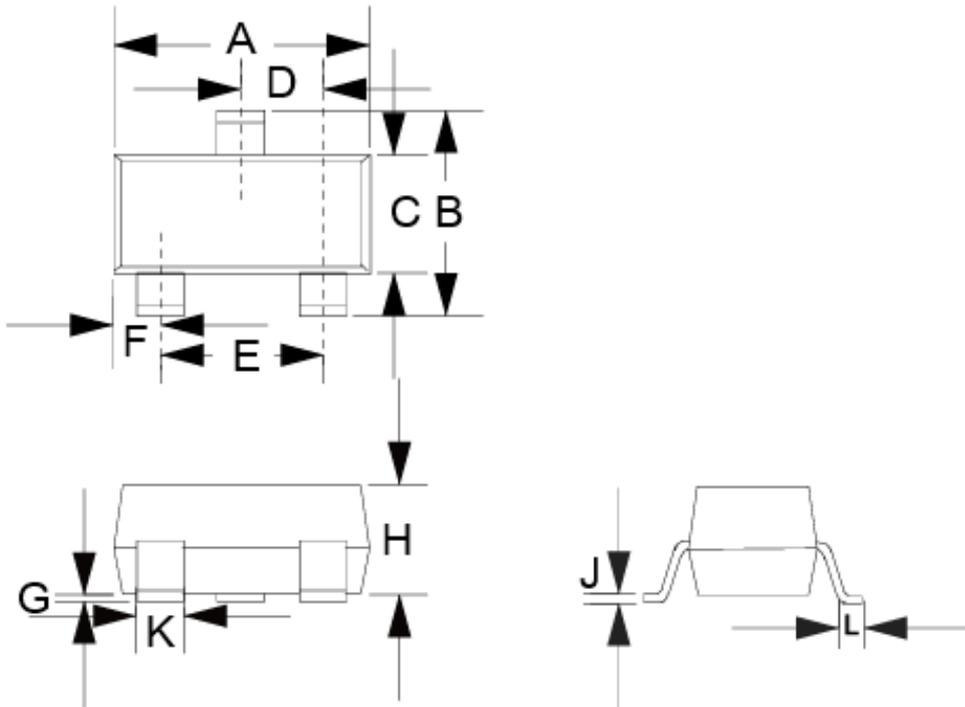
Fig 9. Capacitance characteristics



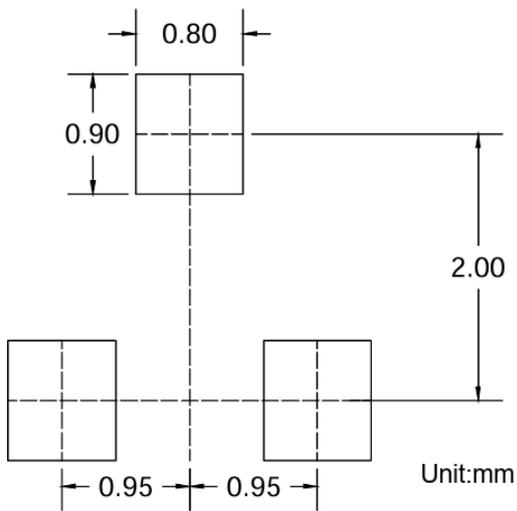


PACKAGE INFORMATION

Dimension in SOT-23 (Unit: mm)



Suggested Solder Pad Layout



Symbol	MILLIMETER	
	Min.	Max.
A	2.800	3.040
B	2.100	2.640
C	1.200	1.400
D	0.850	1.050
E	1.700	2.100
F	0.450	0.600
G	0.010	0.150
H	0.900	1.100
J	0.080	0.180
K	0.300	0.510
L	0.200	0.500



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