

修订记录 / Revised record

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描述 / Descriptions

SOT-23 N MOS

N- CHANNEL MOSFET in a SOT-23 Plastic Package.

特征 / Features $R_{DS(ON)}$

SOT-23

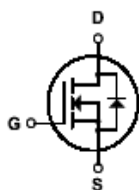
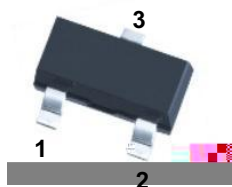
AEC-Q101

Super high dense cell design for low $R_{DS(ON)}$, SOT-23 package, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

用途 / Applications

DC-DC

Battery management, High speed switch, low power DC to DC converter, Meet the stringent requirements of automotive applications.

内部等效电路 / Equivalent Circuit**引脚排列 / Pinning**

PIN1 G

PIN 2 S

PIN 3 D

印章代码 / Marking

Marking

A2Q

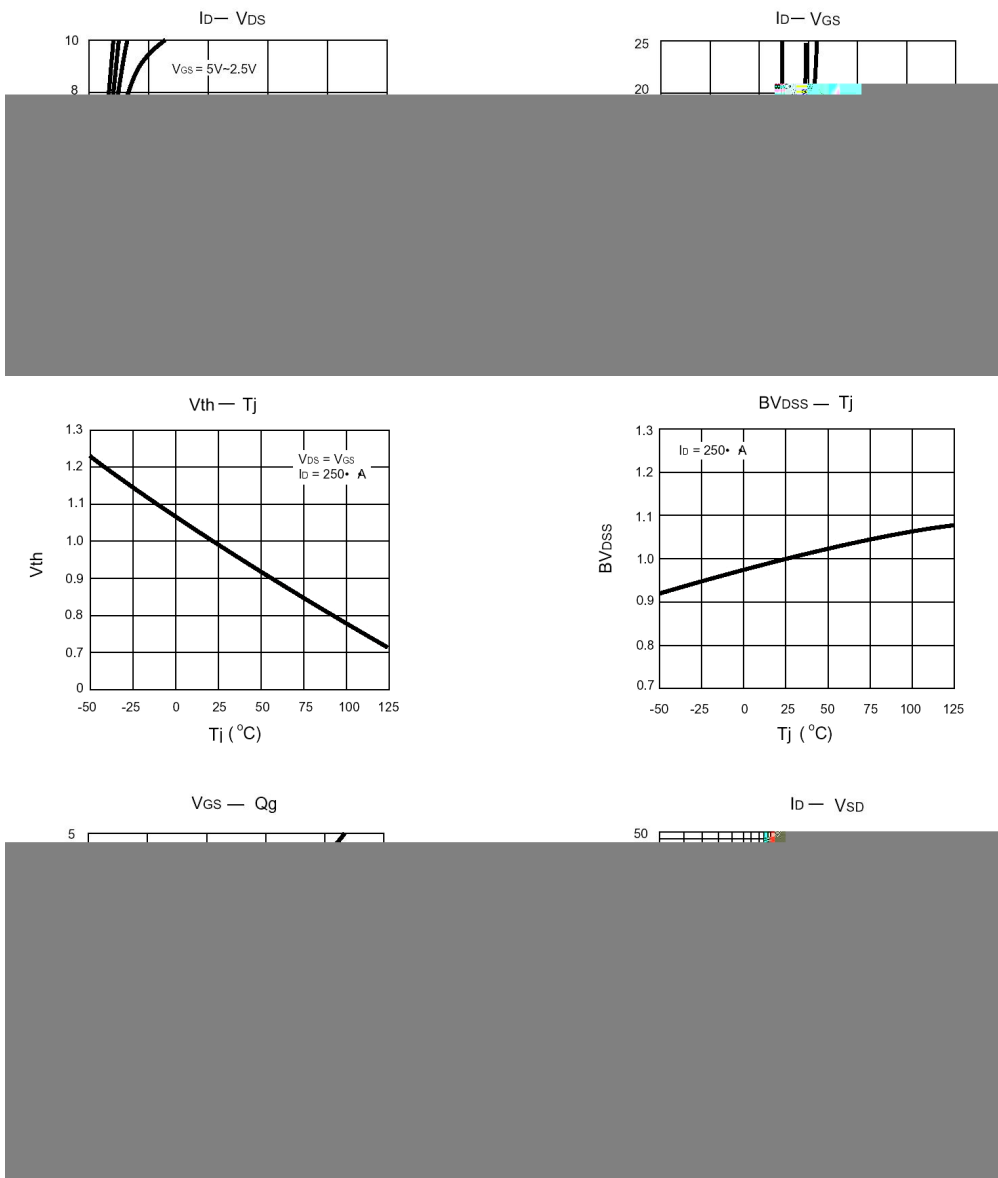
极限参数 / Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	20	V
Gate-Source Voltage	V_{GSS}	± 8	V
Drain Current – Continuous	I_D	3.0	A
Pulsed Drain Current	I_{DM}	10	A
Continuous Source Current	I_S	0.95	A
Power Dissipation	P_D	0.9	W
Storage Temperature Range	T_{stg}	-55~150	°C

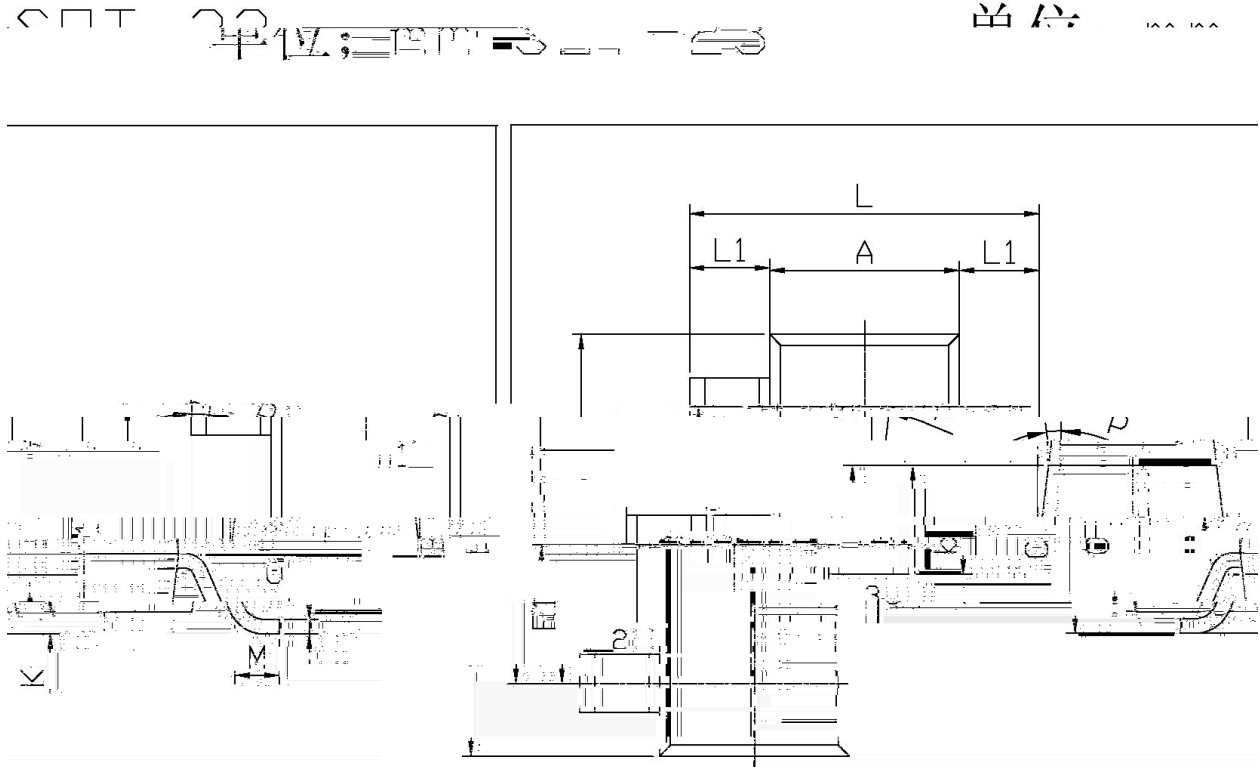
电性能参数 / Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0$ $I_D=10\mu A$	20	21		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{GS}=0$ $V_{DS}=20V$			1.0	μA
Gate–Body Leakage.	I_{GSS}	$V_{GS}=\pm 8V$ $V_{DS}=0V$			± 100	nA
Static Drain–Source On–Resistance	$R_{DS(on)1}$	$V_{GS}=4.5V$ $I_D=3.6A$		34	60	m Ω
	$R_{DS(on)2}$	$V_{GS}=2.5V$ $I_D=3.1A$		41	115	m Ω
Forward Transconductance	g_{FS}	$V_{DS}=5V$ $I_D=3.6A$		8		S
Drain–Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_D=1.25A$			1.2	V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=50\mu A$	0.50		1.0	V
State Drain Current	$I_{D(on)}$	$V_{DS}=5V$ $V_{GS}=2.5V$	4			A
Turn–On Delay Time	$t_{d(on)}$	$V_{DD}=10V$ $I_D=3.6A$ $V_{GEN}=4.5V$ $R_{GEN}=6\Omega$ $R_L=2.8\Omega$		7		ns
Turn–On Rise Time	t_r			55		
Turn–Off Delay Time	$t_{d(off)}$			15		
Turn–Off Fall Time	t_f			10		

电参数曲线图 / Electrical Characteristic Curve

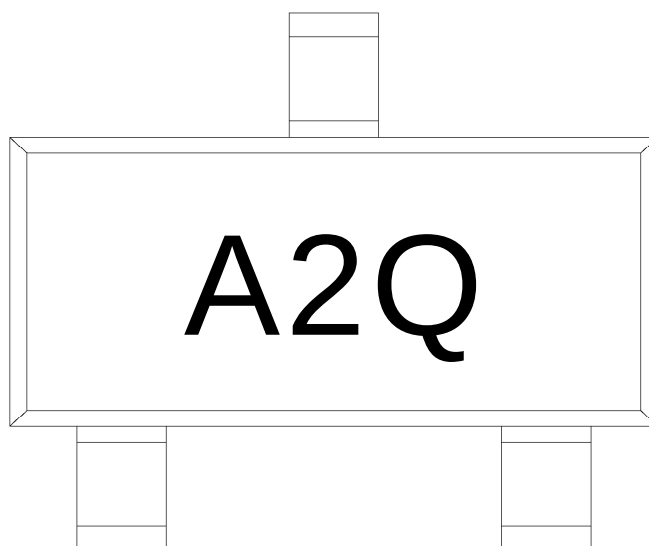


外形尺寸图 / Package Dimensions



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
L	2.2	2.7	C	1.30Max	
		0.45		0.65	0.90
		1.15		1.50	0.20
		2.20		3.10	0.10
		0.30			0.20
		7°			0.8
					0.2

印章说明 / Marking Instructions



A2:

Q

Note:

A2 Product Type Code

Q: Automobile halogen-free product Code



回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)

Note:

- | | | | | | |
|---|-------|-----|-----------|---|---|
| 1 | 150 | 200 | 60 | 120sec; | 1.Preheating:150~200°C, Time:60~120sec. |
| 2 | 255±5 | | 5±0.5sec; | 2.Peak Temp:255±5°C, Duration:5±0.5sec. | |
| 3 | | 2 | 10°C/sec. | 3. Cooling Rate: 2~10°C/sec. | |

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

260±5°C	10±1 sec.	±5°C	Time:10±1 sec
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包装规格 / Packaging SPEC.

/ REEL

Package Type	Units		Dimension (unit mm ³)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Reel 只/卷盘	Reel	Inner Box Outer Box