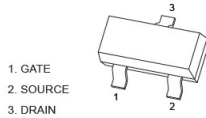
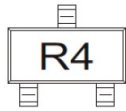


V(BR)DSS	RDS(ON)MAX	ID
30V	30mΩ@10V 42mΩ@4.5V	5.8A

SOT-23

MARKING

Equivalent Circuit

特征 Features

- High dense cell design for extremely low RDS(on).
- Exceptional on-resistance and maximum DC current capability.
- Load/Power Switching.
- Interfacing Switching

机械数据 Mechanical Data

- 封装: SOT-23 封装 SOT-23 Small Outline Plastic Package.
- 环氧树脂 UL 易燃等级 Epoxy UL: 94V-0.
- 安装位置: 任意 Mounting Position: Any.

极限值和温度特性(TA = 25°C 除非另有规定)

Maximum Ratings & Thermal Characteristics (Ratings at 25°C ambient temperature unless otherwise specified.)

参数 Parameters	符号 Symbol	数值 Value	单位 Unit
Drain-Source Voltage	V _{DS}	30	V
Gate-Source Voltage	V _{GS}	±20	V
Continuous Drain Current	I _D	5.8	A
Drain Current-Pulsed(note 1)	I _{DM}	30	
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-50-+150	°C
Thermal Resistance From Junction to Ambient (note 2)	R _{θJA}	357	°C/W

电特性 (TA = 25°C 除非另有规定)

Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified.)

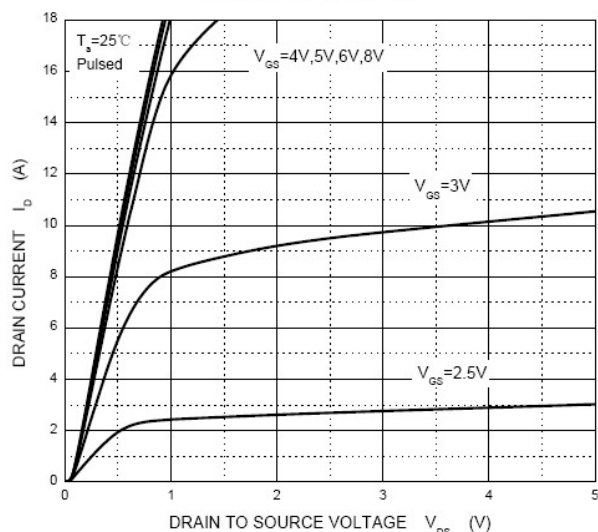
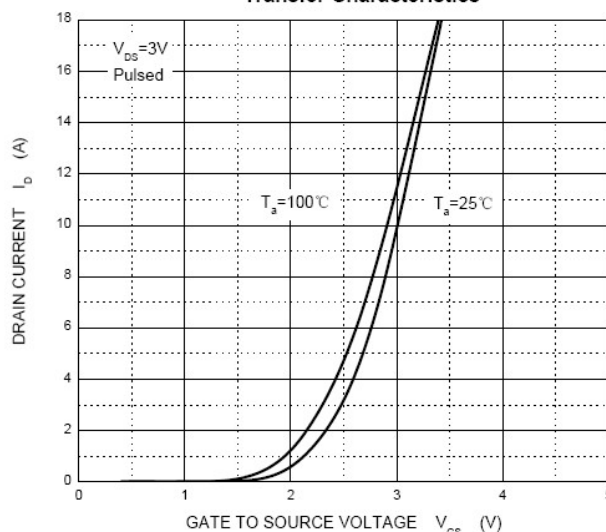
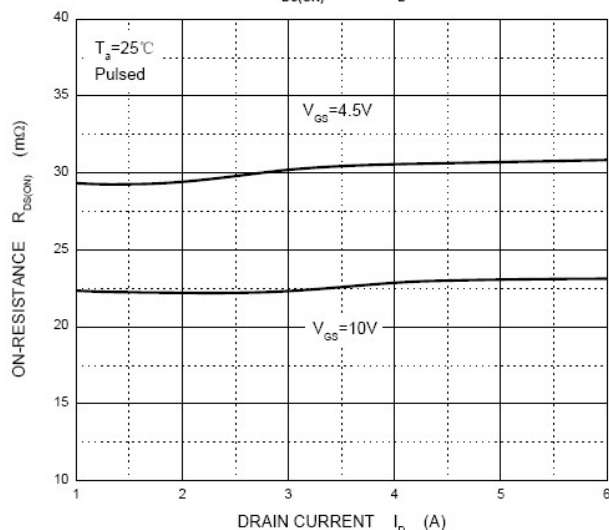
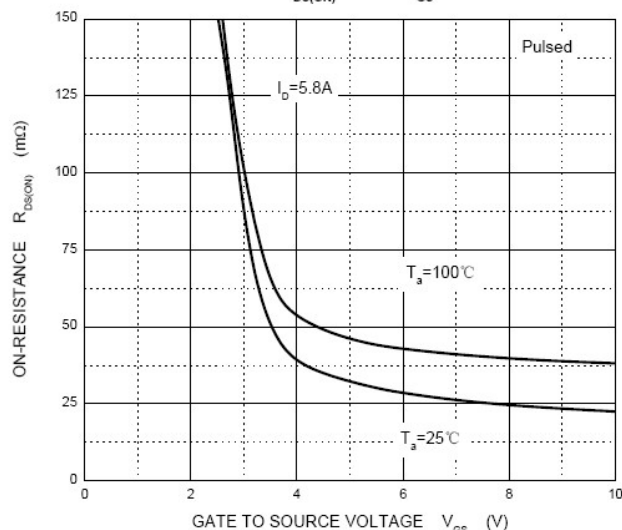
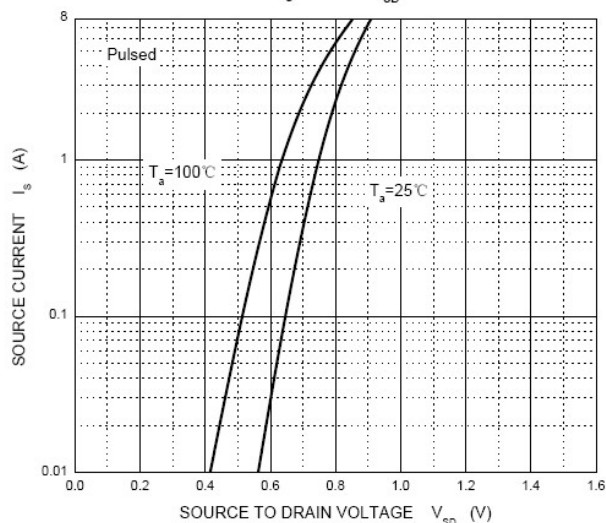
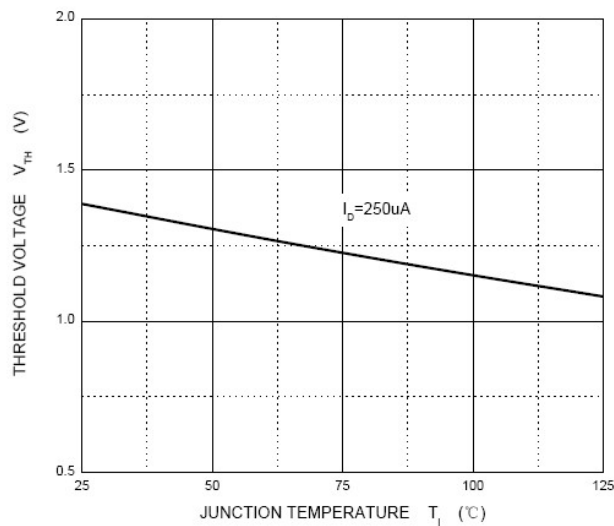
参数 Parameter	符号 Symbols	测试条件 Test Condition	界限 Limits			单位 Unit
			Min	Typ	Max	
Off characteristics						
Drain-Source Breakdown Voltage	V(BR)DSS	VGS=0V, ID=250uA	30			V
Zero Gate Voltage Drain current	IDSS	VDS=30V, VGS=0V			1	uA
Gate-body Leakage	IGSS	VDS=±20V, VDS=0V			±100	nA
On characteristics						
Drain-Source On-Resistance (note 3)	RDS(ON)	VGS=10V, ID=5.8A		23	30	mΩ
		VGS=4.5V, ID=4.8A		31	42	
Forward trans conductance	gfs	VDS=5V, ID=5.8A	5			S
Gate-Threshold voltage*	V GS (th)	VDS=VGS, ID=250uA	1.0	1.4	3.0	V
Dynamic characteristics (note 4,5)						
Input capacitance	Ciss	VDS=15V, VGS=0V,f=1MHz			820	pF
Output capacitance	Coss			118		
Reverse Transfer capacitance	Crss			85		
Gate resistance	Rg	VDS=0V, VGS=0V,f=1MHz			1.5	Ω
Switching characteristics (note 4,5)						
Turn-on Time	td(on)	VGS=10V, RL=2.6Ω, VDS=15V, RGEN=3Ω			6.5	ns
Rise time	tr			3.1		
Turn-off Time	td(off)			15.1		
Fall time	tf			2.7		
Drain-source diode characteristics and maximum ratings						
Diode forward voltage	VSD	IS=1A, VGS=0V			1.0	V

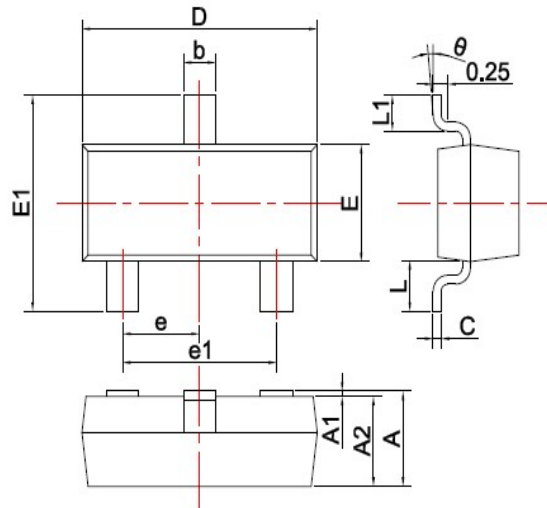
Notes: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.

2. Surface Mounted on FR4 Board, t<5 sec.

3. Pulse Test: Pulse Width ≤300us, Duty Cycles≤2%.

4. Guaranteed by design, not subject to production testing.

Typical characteristics
Output Characteristics

Transfer Characteristics

 $R_{DS(ON)}$ — I_D

 $R_{DS(ON)}$ — V_{GS}

 I_S — V_{SD}

Threshold Voltage


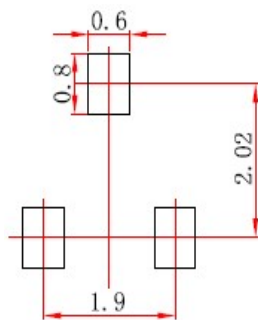
SOT-23 PACKAGE OUTLINE Plastic surface mounted package


SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

Unit: mm

焊盘设计参考Precautions: PCB Design

Recommended land dimensions for SOT-23 diode. Electrode patterns for PCBs


Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

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