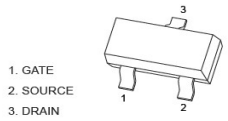
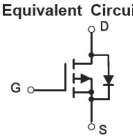
V(BR)DSS	RDS(ON)MAX	ID
-50V	8Ω@-10V	-0.13A
	10Ω@-5V	

SOT-23



MARKING

Equivalent Circuit



特征 Features

- Energy Efficient
- Low Threshold Voltage
- High-speed Switching.
- DC/DC Converter.
- AEC-Q101 qualified

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℃ 除非另有规定)

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

参数 Parameters	符号 Symbol	数值 Value	单位 Unit
Drain-Source Voltage	V_{DS}	-50	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	-0.13	A
Pulsed Drain Current (tp<10us) (note1)	I_{DM}	-0.52	A
Power Dissipation	P_D	225	mW
Junction Temperature	T_j	150	℃
Storage Temperature	Tstg	-50-+150	℃
Thermal Resistance From Junction to Ambient (note2)	$R_{\theta JA}$	556	℃/W
Maximum Lead Temperature for Soldering Purposes, Duration for 5 Seconds	T_L	260	℃

电特性 (TA = 25℃ 除非另有规定)

Electrical Characteristics (Ratings at 25℃ 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	
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D=-250uA	-50			V
Gate-Threshold voltage(note3)	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=-250uA	-0.9	-1.6	-2.0	V
Gate-body Leakage	I_{GSS}	V_{DS}=0V, V_{GS}=±20V			±5	uA
Zero Gate Voltage Drain current	I_{DSS}	V_{DS}=-50V, V_{GS}=0V			-15	uA
		V_{DS}=-25V, V_{GS}=0V			-0.1	
~~Drain-Source On-Resistance (note3)~~	$R_{DS(ON)}$	V_{GS}=-5V, I_D=-0.1A		5.8	10	Ω
		V_{GS}=-10V, I_C=-0.1A		4.5	8	
Forward trans conductance (note1)	g_{fs}	V_{DS}=-25V, I_D=-0.1A	50			mS
Diode forward voltage	V_{SD}	I_S=0.34A, V_{GS}=0V			1.3	V
Dynamic(note4)						
Input capacitance	Ciss	V_{DS}=5V, V_{GS}=0V,f=1MHz		30		pF
Output capacitance	Coss			10		
Reverse Transfer capacitance	Crss			5		
Switching(note3,4)						
Turn-on Time	td(on)	V_{DD}=-15V, R_L=50Ω, I_D≈-0.25A,		2.5		ns
Rise time	tr			1		
Turn-off Time	td(off)			16		
Fall time	tf			8		
SOURCE-DRAIN DIODE CHARACTERISTICS						
Continuous Current	Is				-0.13	A
Pulsed Current	I_{SM}				-0.52	A
Diode forward Voltage(note 3)	V_{SD}	I_S=-0.13A, V_{GS}=0V			-.2.2	V

Notes: 1). Repetitive rating: Pulse width limited by junction temperature.
2). Surface mounted on FR4 board, t ≤10s
3).Pulse Test: Pulse Width ≤300us, Duty Cycle≤2%.

Typical characteristics

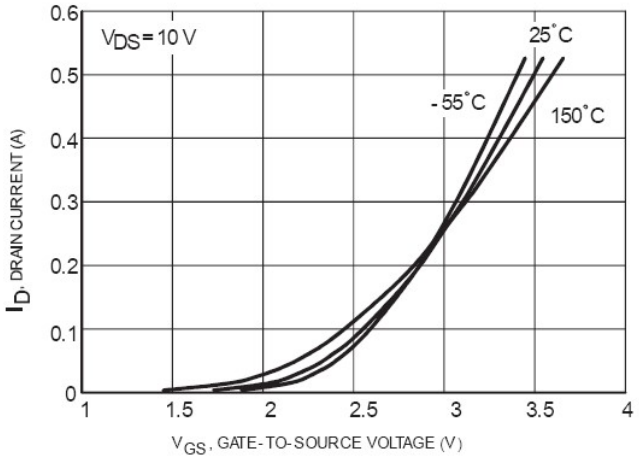


Fig1. Transfer Characteristics

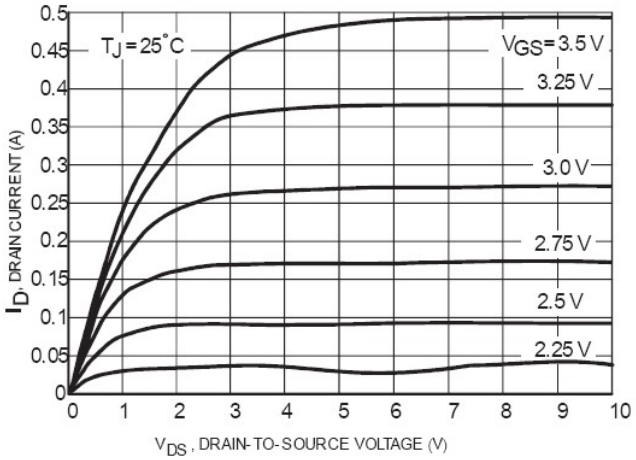


Fig2. On-Region Characteristics

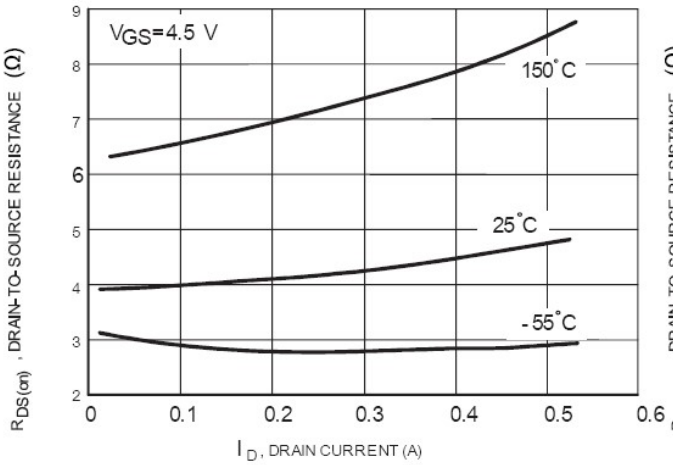


Fig3. On-Resistance versus Drain Current

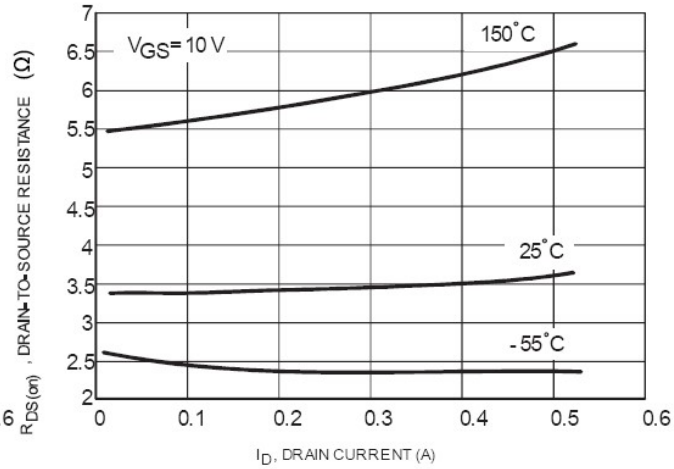


Fig4. On-Resistance versus Drain Current

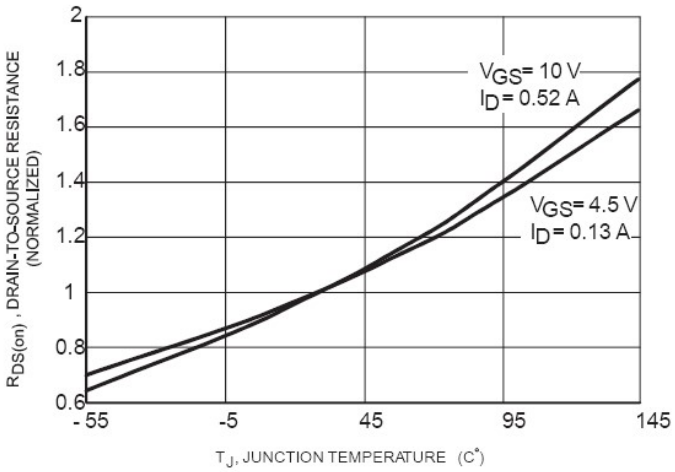


Fig5. On-Resistance Variation with Temperature

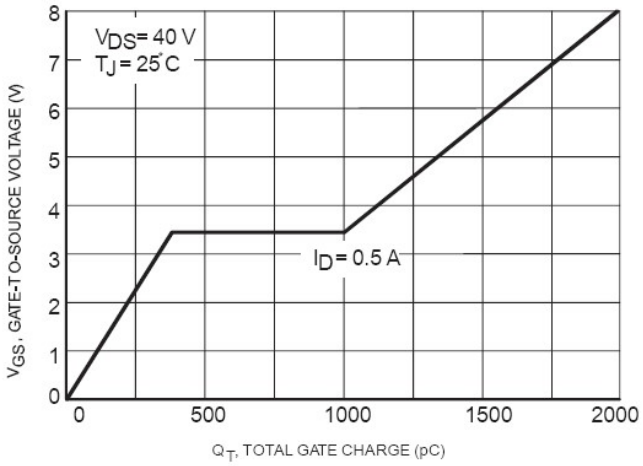
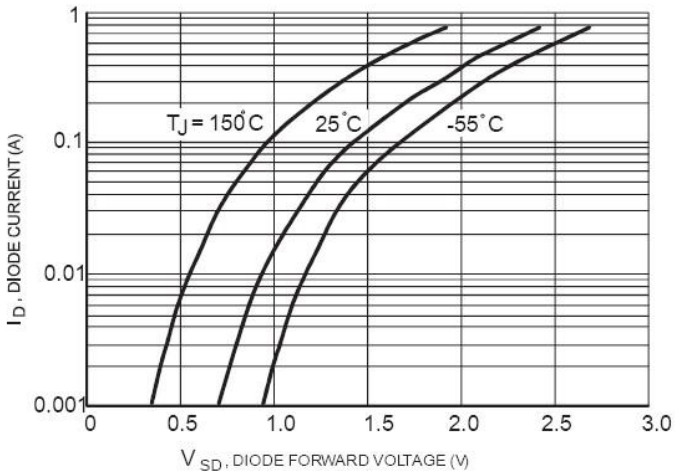
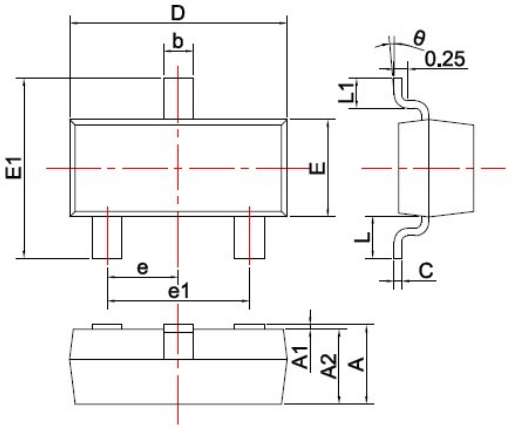


Fig6. Gate Charge



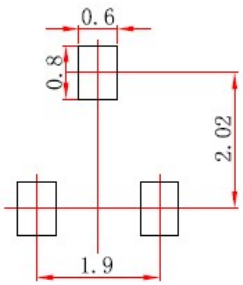
SOT-23 PACKAGE OUTLINE Plastic surface mounted package



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:± 0.05mm.
3.The pad layout is for reference purposes only.

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