

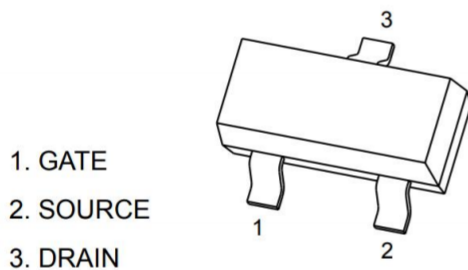
Product Summary

- V_{DS} 25 V
- I_D 0.9A
- $R_{DS(ON)}$ ($V_{GS}=4.5V, I_D=0.3A$) $\leq 1.05\Omega$
- ESD protected gate, typical 6kV (HBM)

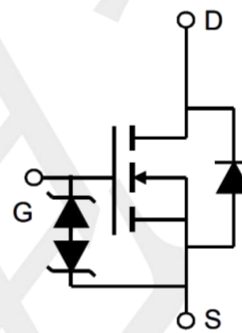
Application

- Interfacing Switching
- Load Switch
- Portable equipment and battery
- DC/DC Converter

Package and Pin Configuration



Circuit diagram



SOT23

Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNIT
Drain-Source Voltage	V_{DS}	25	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	0.9	A
Pulsed Drain Current ($t = 100 \mu\text{s}$)	I_{DM}	2.5	A
Electrostatic Discharge Rating Human Body Model	ESD	6.0	KV
Maximum Power Dissipation	P_D	0.85	W
Operating Junction Temperature Range	T_J	+155	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$

Thermal Characteristic

PARAMETER	Symbol	Value	Unit
Thermal Resistance from Junction to Ambient($t \leq 10\text{s}$)	$R_{\theta JA}$	357	$^\circ\text{C/W}$

Note : When mounted on 1" square PCB (FR4 material).

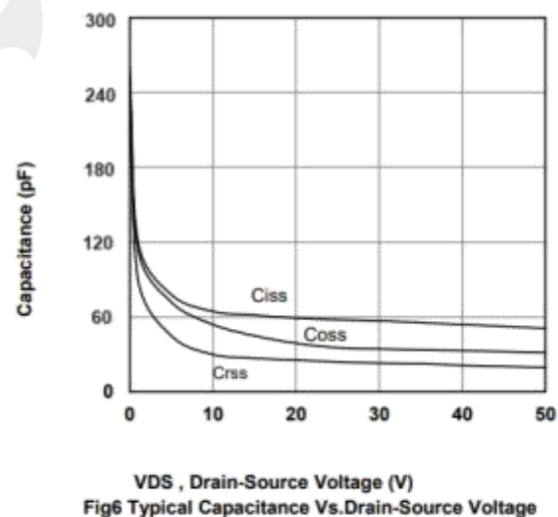
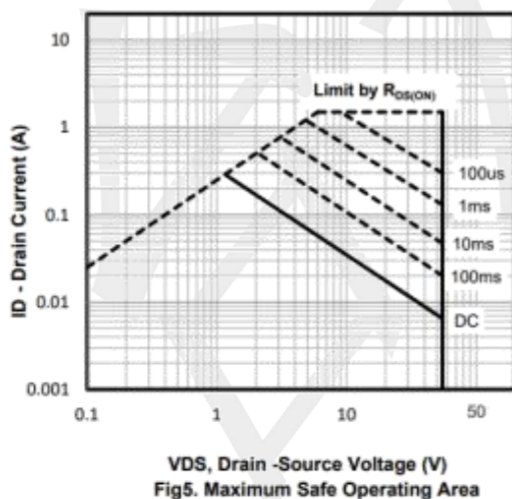
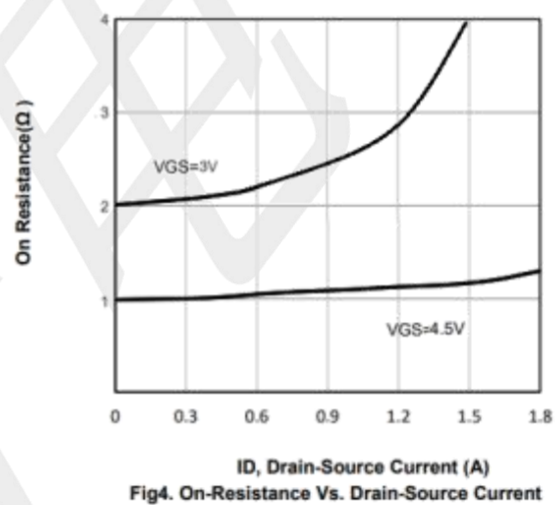
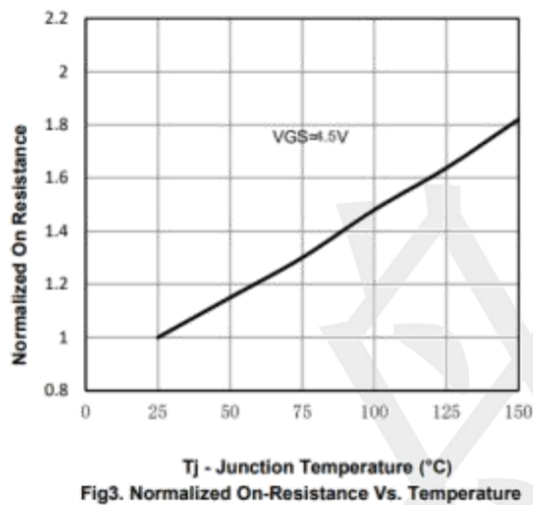
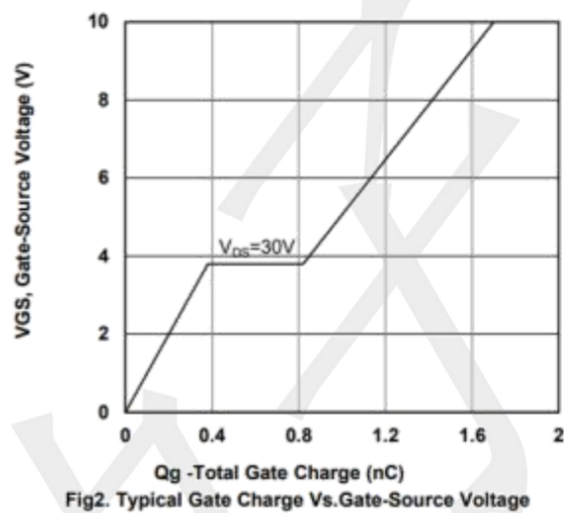
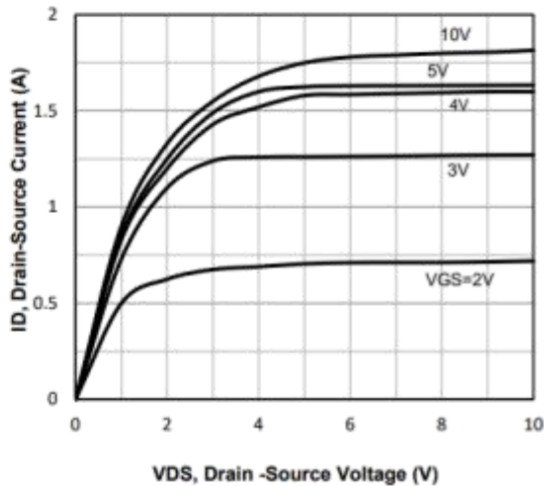
Electrical Characteristics (T_A=25°C unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Static						
Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D= 10\mu A$	BV_{DSS}	25	--	--	V
Gate-Source Threshold Voltage	$V_{DS}=V_{GS}, I_D= 250\mu A$	$V_{GS(th)}$	0.6	1.0	1.5	V
Gate-Source Leakage	$V_{DS}=0V, V_{GS}= \pm 12V$	I_{GSS}	--	--	± 0.5	μA
Zero Gate Voltage Drain Current	$V_{DS}= 25V, V_{GS}=0V$	I_{DSS}	--	--	1.0	μA
Drain-Source On-State Resistance (Note 1)	$V_{GS}= 4.5V, I_D= 0.3A$	$R_{DS(on)}$	--	0.40	1.05	Ω
	$V_{GS}= 3.0V, I_D= 0.2A$		--	0.57	2.10	
Forward Transconductance (Note 2)	$V_{DS}= 15V, I_D= 0.2A$	g_{fs}	--	60	--	mS
Dynamic (Note 2)						
Input Capacitance	$V_{DS} = 25V, V_{GS} = 0V,$ $F = 1.0MHz$	C_{iss}	--	50	--	pF
Output Capacitance		C_{oss}	--	16	--	
Reverse Transfer Capacitance		C_{rss}	--	11	--	
Switching						
Turn-On Delay Time (Note 3)	$V_{DS} = 25V,$ $I_D= 0.2A,$ $V_{GEN}= 10V,$ $R_G = 10\Omega$	$t_{d(on)}$	--	35	--	nS
Rise Time (Note 3)		t_r	--	61	--	
Turn-Off Delay Time (Note 3)		$t_{d(off)}$	--	55	--	
Fall Time (Note 3)		t_f	--	35	--	
Total Gate Charge	$V_{DS} = 25V,$ $I_D= 0.3A,$ $V_{GS}= 10V$	Q_g	--	2.5	--	nC
Gate-Source Charge		Q_{gs}	--	1.1	--	
Gate-Drain Charge		Q_{gd}	--	0.35	--	
Source-Drain Diode Ratings and Characteristics (Note 2)						
Forward Voltage	$V_{GS} = 0V, I_F = 0.1A$	V_{SD}	--	0.85	1.2	V
Continuous Source Current	Integral reverse diode in the MOSFET	I_S	--	--	0.9	A
Pulsed Current (Note 1)		I_{SM}	--	--	2.5	A

Notes:

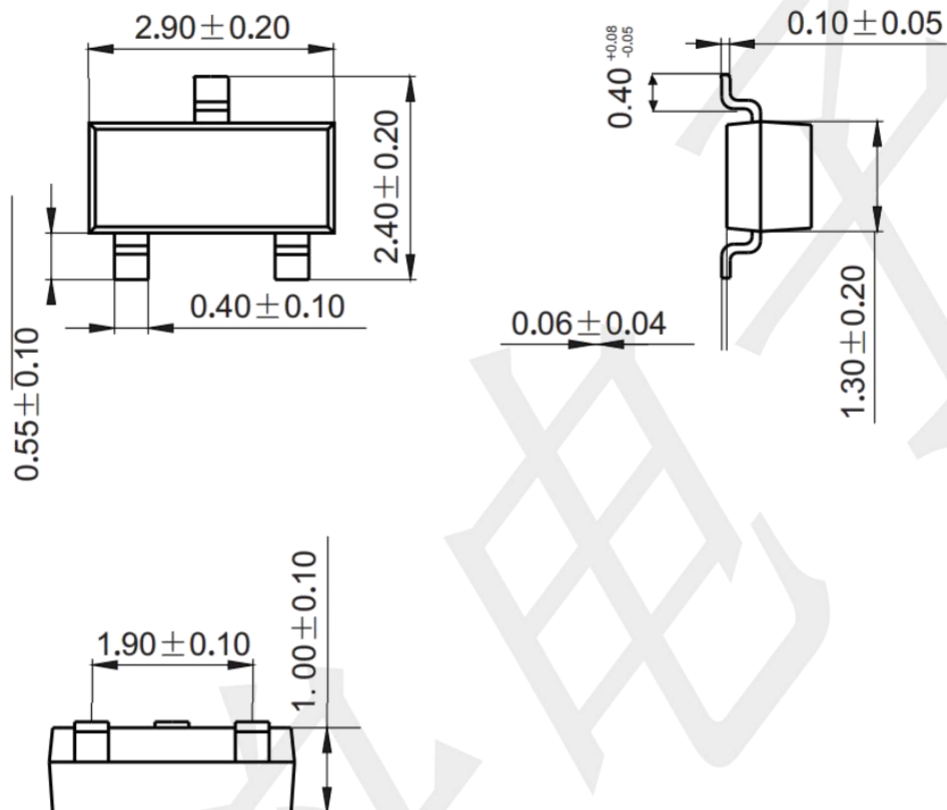
1. Pulse test; pulse width ≤ 300 μS, duty cycle ≤ 2%.
2. Guaranteed by design, not subject to production testing.
3. Independent of operating temperature

TYPICAL CHARACTERISTICS (25 °C, unless otherwise noted)



Package Outline Dimensions (unit: mm)

SOT-23



Mounting Pad Layout (unit: mm)

