

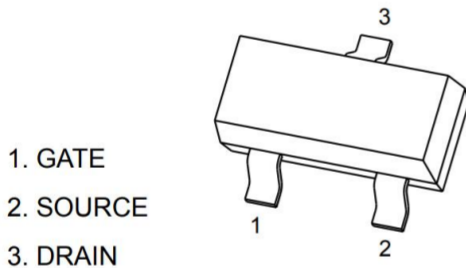
Product Summary

- V_{DS} 30 V
- $R_{DS(ON)}$ ($V_{GS}=10V$) $\leq 22m\Omega$ (Typ)
- $R_{DS(ON)}$ ($V_{GS}=4.5V$) $\leq 27m\Omega$ (Typ)

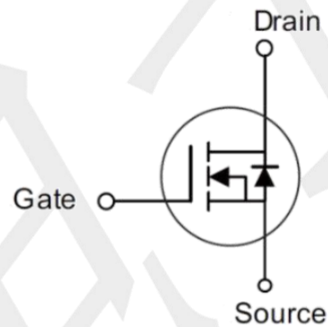
Application

- Interfacing Switching
- Load Switch
- Portable equipment and battery

Package and Pin Configuration



Circuit diagram



SOT-23

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

PARAMETER	SYMBOL	LIMIT	UNIT	
Drain-Source Voltage	V_{DS}	30	V	
Gate-Source Voltage	V_{GS}	± 12	V	
Continuous Drain Current $T_A=25^\circ C$	I_D	5.8	A	
Continuous Drain Current $T_A=75^\circ C$	I_D	4.8	A	
Pulsed Drain Current ($t = 100 \mu s$)	I_{DM}	30	A	
Maximum Power Dissipation	P_D	$T_A=25^\circ C$	1.25	W
		$T_A=75^\circ C$	0.8	W
Operating Junction Temperature Range	T_J	-55 to +150	$^\circ C$	
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ C$	

Thermal Characteristic

PARAMETER	Symbol	Value	Unit
Thermal Resistance from Junction to Ambient($t \leq 10s$)	$R_{\theta JA}$	100	$^\circ C/W$

PCB Mount
(Note)

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

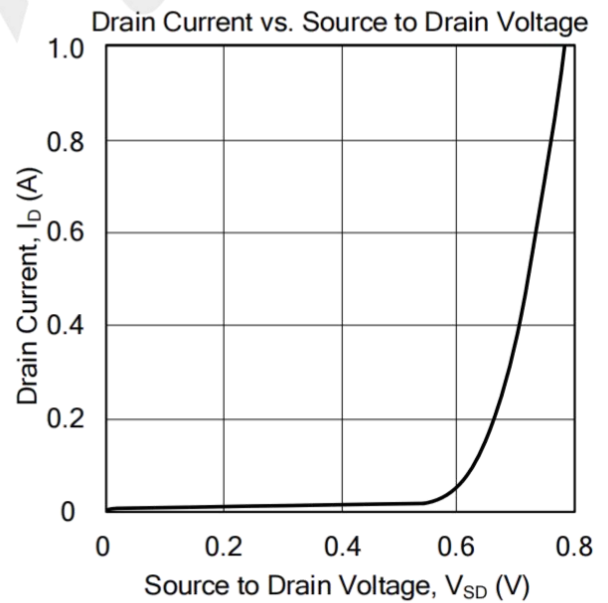
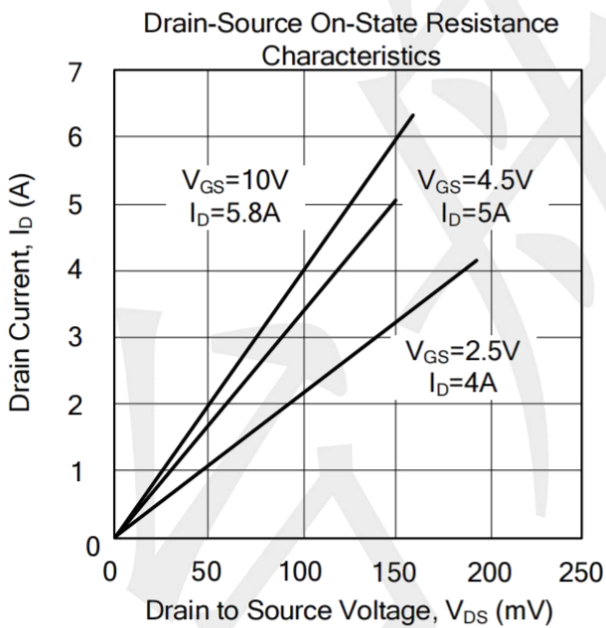
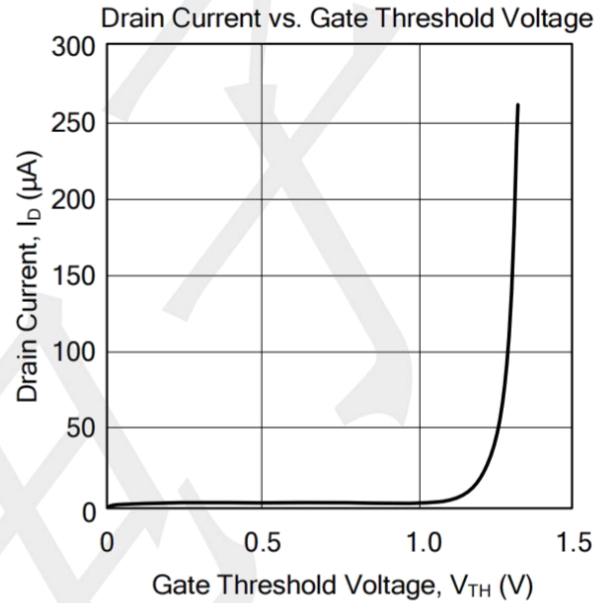
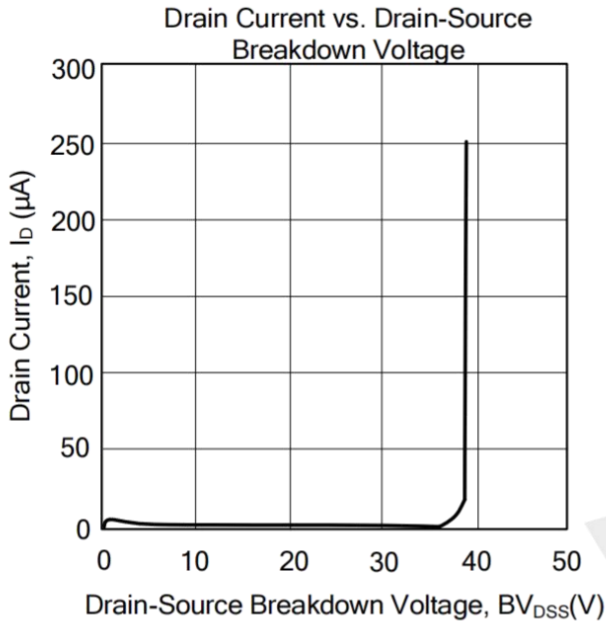
Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Static						
Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=10\mu A$	BV_{DSS}	30	--	--	V
Gate-Source Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	$V_{GS(th)}$	0.7	1.1	1.5	V
Gate-Source Leakage	$V_{DS}=0V, V_{GS}=\pm 12V$	I_{GSS}	--	--	± 100	nA
Zero Gate Voltage Drain Current	$V_{DS}=24V, V_{GS}=0V$	I_{DSS}	--	--	1.0	μA
Drain-Source Resistance (Note 1)	On-State $V_{GS}=10V, I_D=5.8A$	$R_{DS(on)}$	--	22	28	m Ω
	$V_{GS}=4.5V, I_D=5.0A$		--	27	33	
	$V_{GS}=2.5V, I_D=4.0A$		--	43	52	
Forward Transconductance (Note 2)	$V_{DS}=5V, I_D=5.0A$	g_{fs}	--	20	--	S
Dynamic (Note 2)						
Input Capacitance	$V_{DS}=15V, V_{GS}=0V,$ $F=1.0MHz$	C_{iss}	--	550	--	pF
Output Capacitance		C_{oss}	--	72	--	
Reverse Transfer Capacitance		C_{rss}	--	57	--	
Switching						
Turn-On Delay Time (Note 3)	$V_{DS}=15V,$ $V_{GS}=10V,$ $I_D=5.8A,$ $R_G=3\Omega.$	$t_{d(on)}$	--	5	--	nS
Rise Time (Note 3)		t_r	--	16	--	
Turn-Off Delay Time (Note 3)		$t_{d(off)}$	--	17	--	
Fall Time (Note 3)		t_f	--	24	--	
Total Gate Charge	$V_{DS}=10V,$ $I_D=5.8A, V_{GS}=4.5V$	Q_g	--	9	--	nC
Gate Source Charge		Q_{gs}	--	1.4	--	
Gate Drain Charge		Q_{gd}	--	3.4	--	
Source-Drain Diode Ratings and Characteristics (Note 2)						
Forward Voltage	$V_{GS}=0V, I_F=1A$	V_{SD}	--	0.7	1.1	V
Continuous Source Current	Integral reverse diode in the MOSFET	I_S	--	--	5.8	A
Pulsed Current (Note 1)		I_{SM}	--	--	30	A

Notes:

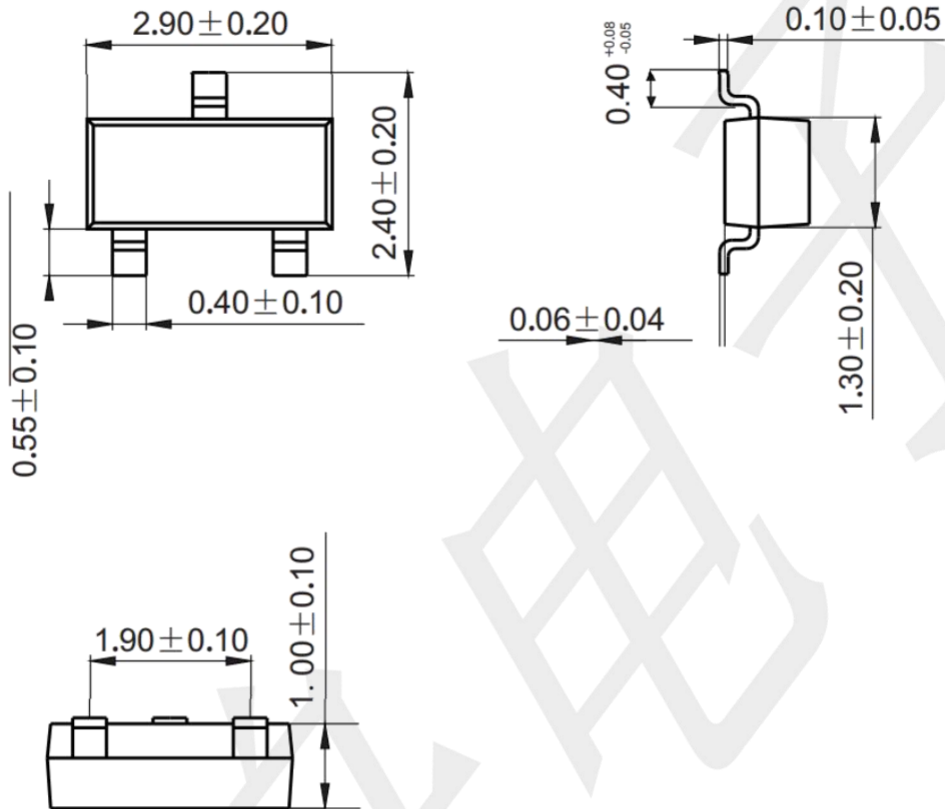
1. Pulse test; pulse width $\leq 300 \mu s$, duty cycle $\leq 2\%$.
2. Guaranteed by design, not subject to production testing.
3. Independent of operating temperature

TYPICAL CHARACTERISTICS (25 °C, unless otherwise noted)



Package Outline Dimensions (unit: mm)

SOT-23



Mounting Pad Layout (unit: mm)

