

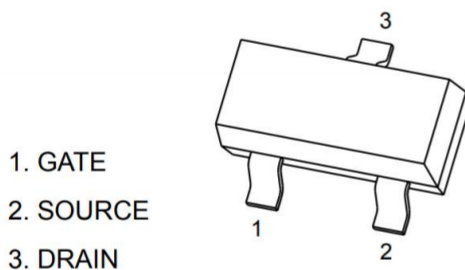
Product Summary

- V_{DS} 20 V
- $R_{DS(ON)}$ ($V_{GS}=4.5V$) $\leq 250m\Omega$
- $R_{DS(ON)}$ ($V_{GS}=2.5V$) $\leq 360m\Omega$

Application

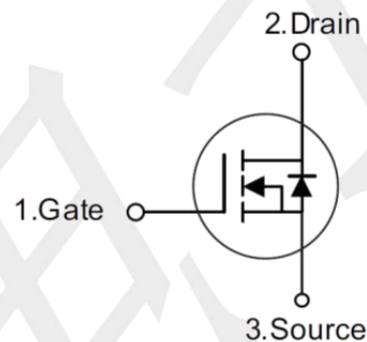
- Interfacing Switching
- Load Switch
- Portable equipment and battery

Package and Pin Configuration



SOT-23

Circuit diagram



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

PARAMETER	SYMBOL	LIMIT	UNIT
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current $T_A=25^\circ\text{C}$	I_D	1.2	A
Continuous Drain Current $T_A=70^\circ\text{C}$	I_D	0.95	A
Pulsed Drain Current ($t = 100 \mu\text{s}$)	I_{DM}	5.0	A
Maximum Power Dissipation $T_A=25^\circ\text{C}$	P_D	0.54	W
Operating Junction Temperature Range	T_J	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$

Thermal Characteristic

PARAMETER	Symbol	Value	Unit
Thermal Resistance from Junction to Ambient($t \leq 10\text{s}$)	$R_{\theta JA}$	230	$^\circ\text{C/W}$

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

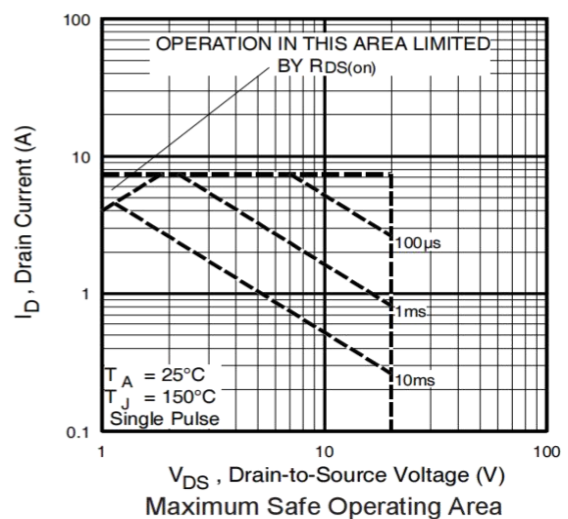
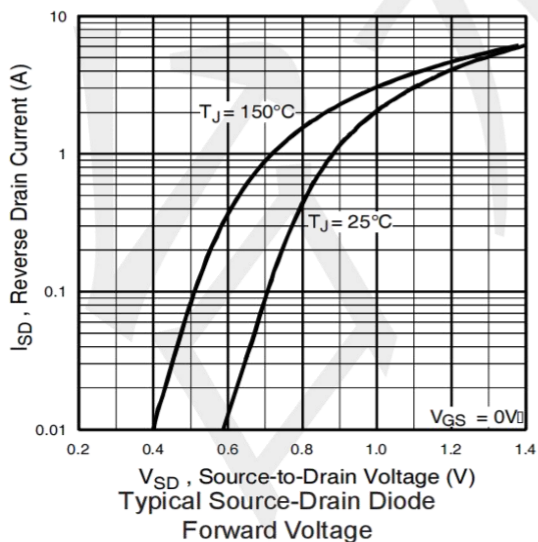
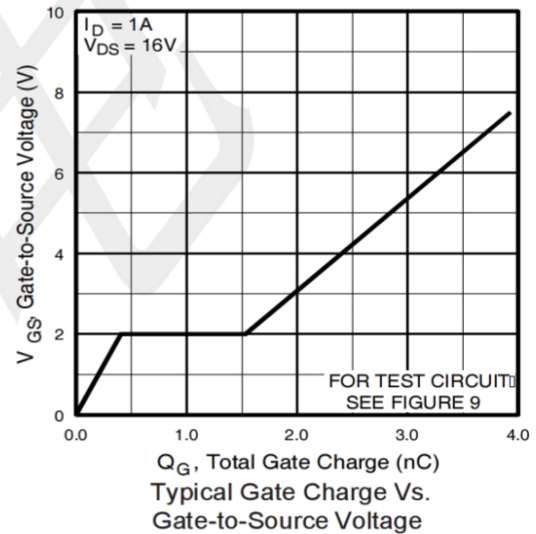
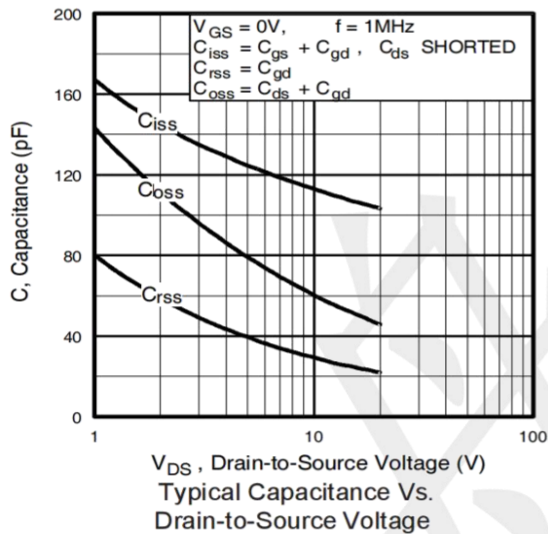
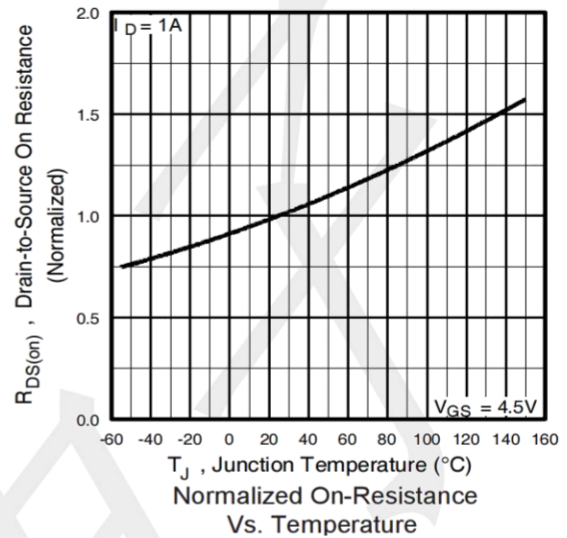
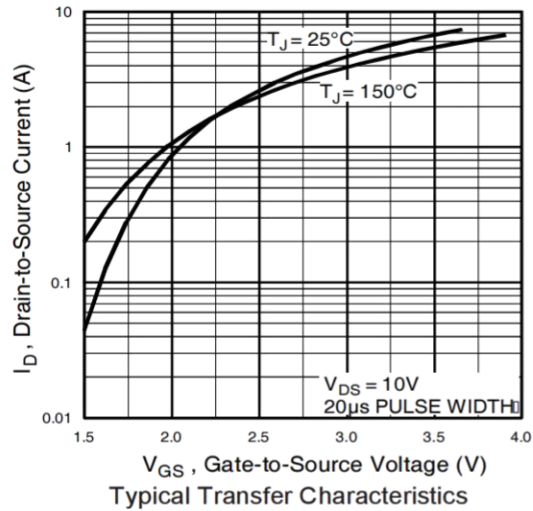
Electrical Characteristics (T_A=25°C unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Static						
Drain-Source Breakdown Voltage	V _{GS} =0V, I _D = 10μA	BV _{DSS}	20	--	--	V
Gate-Source Threshold Voltage	V _{DS} =V _{GS} , I _D = 250μA	V _{GS(th)}	0.7	--	2.1	V
Gate-Source Leakage	V _{DS} =0V, V _{GS} = ±12V	I _{GSS}	--	--	±100	nA
Zero Gate Voltage Drain Current	V _{DS} = 20V, V _{GS} =0V	I _{DSS}	--	--	1.0	μA
Drain-Source On-State Resistance (Note 1)	V _{GS} = 4.5V, I _D = 1.2A	R _{DS(on)}	--	--	250	mΩ
	V _{GS} = 2.5V, I _D = 1.0A		--	--	360	
Forward Transconductance (Note 2)	V _{DS} = 10V, I _D = 1.0A	g _{fs}	--	2.0	--	S
Dynamic (Note 2)						
Input Capacitance	V _{DS} = 10V, V _{GS} = 0V, F= 1.0MHz	C _{iSS}	--	120	--	pF
Output Capacitance		C _{oSS}	--	55	--	
Reverse Transfer Capacitance		C _{rSS}	--	26	--	
Switching						
Turn-On Delay Time (Note 3)	V _{DS} = 10V, V _{GS} =4.5V, I _D = 1.0A R _G = 6Ω,	t _{d(on)}	--	2.6	--	nS
Rise Time (Note 3)		t _r	--	9.4	--	
Turn-Off Delay Time (Note 3)		t _{d(off)}	--	9.8	--	
Fall Time (Note 3)		t _f	--	4.8	--	
Total Gate Charge	V _D S = 10V, I _D = 1.0A, V _{GS} = 4.5V	Q _g	--	2.8	--	nC
Gate Source Charge		Q _{gs}	--	0.5	--	
Gate Drain Charge		Q _{gd}	--	1.2	--	
Source-Drain Diode Ratings and Characteristics (Note 2)						
Forward Voltage	V _{GS} = 0V, I _F = 1.0A	V _{SD}	--	0.7	1.1	V
Continuous Source Current	Integral reverse diode in the MOSFET	I _S	--	--	1.2	A
Pulsed Current (Note 1)		I _{SM}	--	--	5.0	A

Notes:

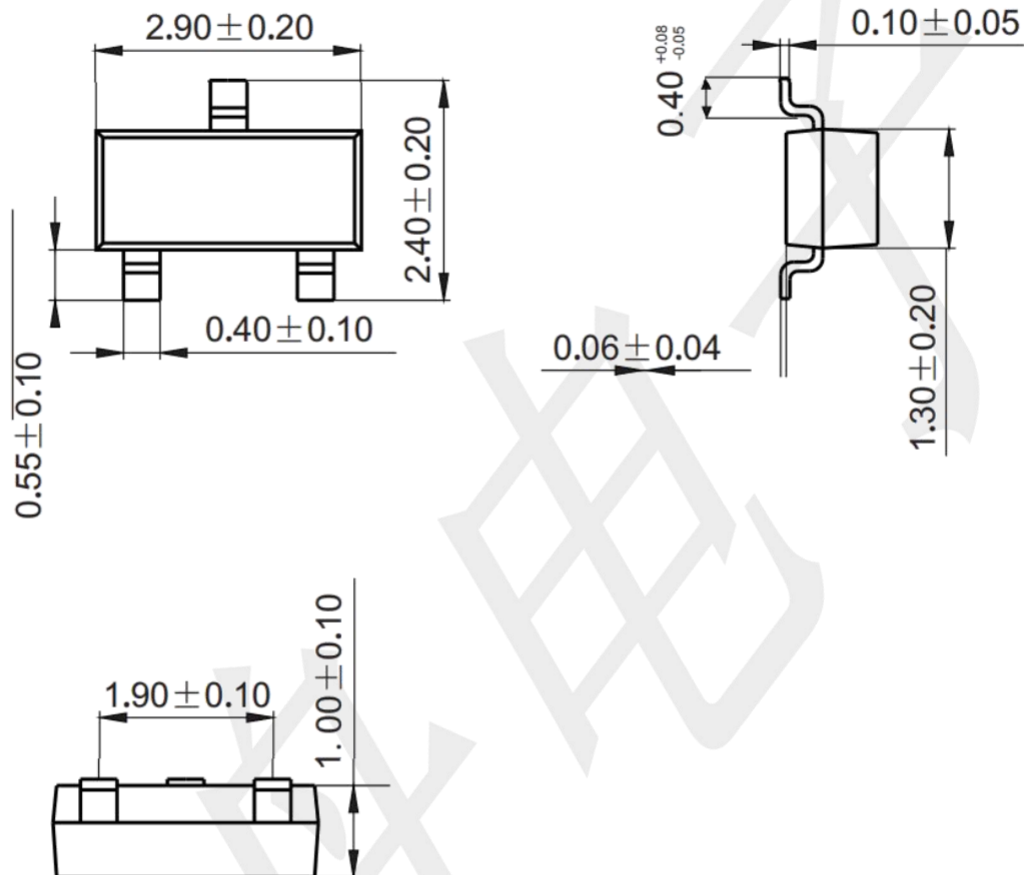
1. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.
2. Guaranteed by design, not subject to production testing.
3. Independent of operating temperature

TYPICAL CHARACTERISTICS (25 °C, unless otherwise noted)



Package Outline Dimensions (unit: mm)

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Mounting Pad Layout (unit: mm)

