



Features

- Excellent Rds(on)
- TrenchFET Power MOSFET
- High Power and Current Handling Capability
- Halogen-free Package
- Surface Mount Package

Applications

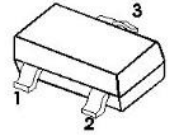
- Battery Switching
- DC/DC Converter

Marking: According to customer requirement

VDS	60V
RDSON(@VGS=10V)	<105mΩ
RDSON(@VGS=4.5V)	<125mΩ

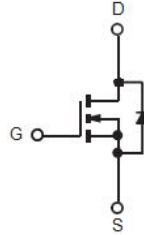
SOT-23

Pin Definition



1. Gate
2. Source
3. Drain

Equivalent circuit



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

Parameters	Symbol	Value	Unit
Drain-Source Voltage	V _{DS}	60	V
Gate-Source Voltage	V _{GS}	±20	V
Continuous Drain Current	I _D	3	A
Pulsed Drain Current (note 1)	I _{DM}	10	A
Maximum Power Dissipation	P _D	0.35	W
Thermal Resistance from Junction to Ambient (note 2)	R _{θJA}	357	°C/W
Junction and Storage Temperature	T _J , T _{STG}	-55~+150	°C

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

Parameters	Symbol	Test Condition	Min	Typ	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	60			V
Zero gate voltage drain current Gate-body leakage current	I _{DSS}	V _{DS} = 60V, V _{GS} = 0V			1	μA
		V _{GS} = ±20V, V _{DS} = 0V			±100	nA
Gate threshold voltage (note 3)	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	0.5		2	V
Drain-source on-resistance (note 3)	R _{DSON}	V _{GS} = 10V, I _D = 3A			105	mΩ
		V _{GS} = 4.5V, I _D = 3A			125	mΩ
Forward transconductance (note 3)	g _{FS}	V _{DS} = 15V, I _D = 2A	1.4			S
Diode forward voltage (note 3)	V _{SD}	I _S = 3A, V _{GS} = 0V			1.2	V



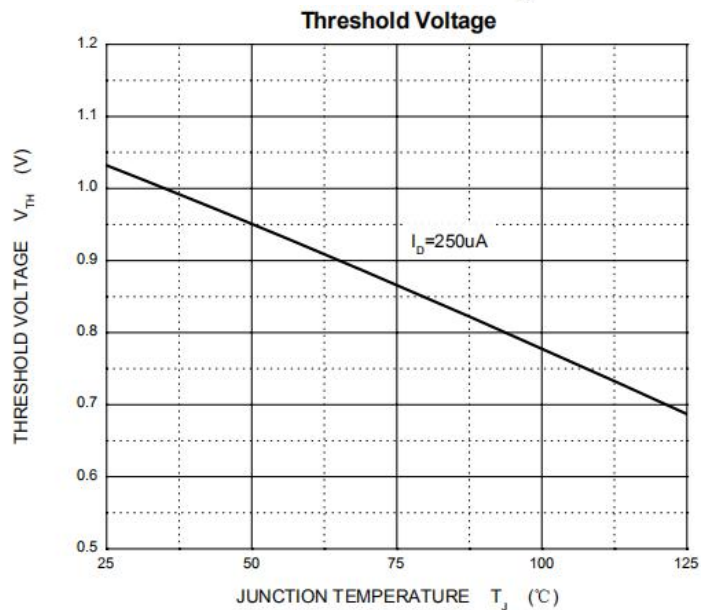
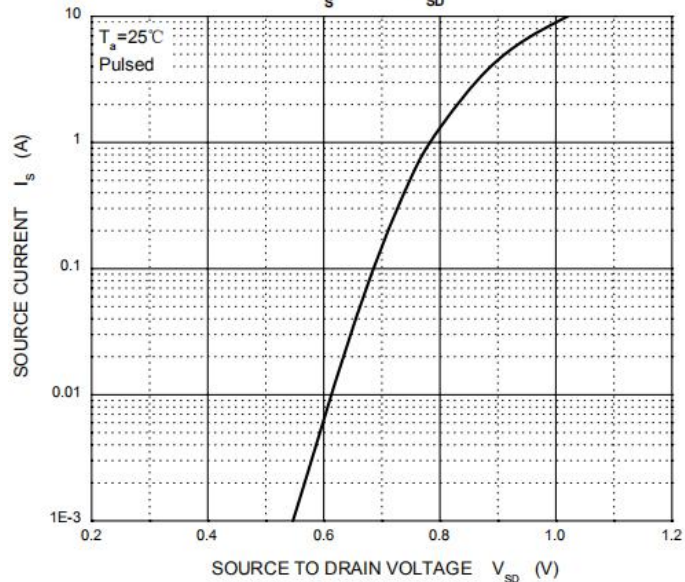
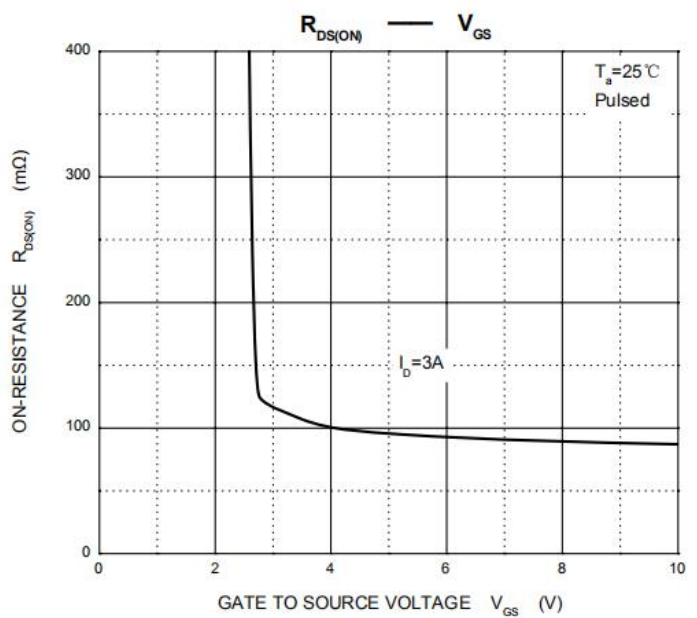
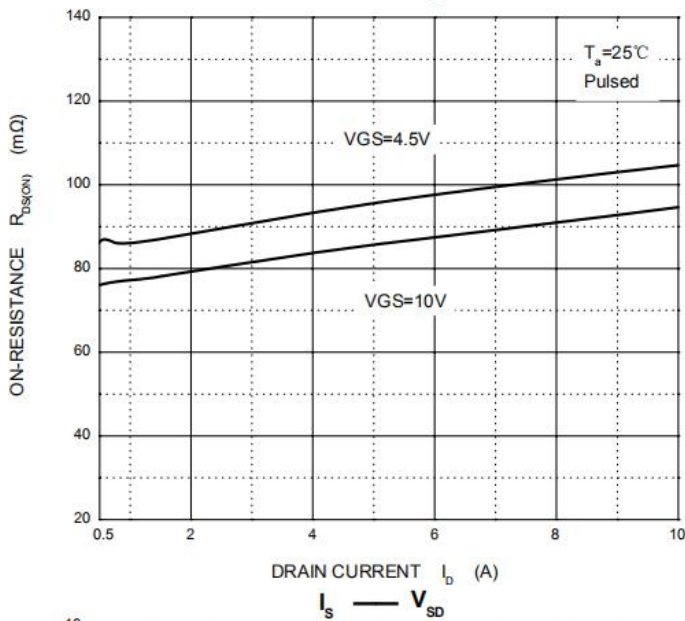
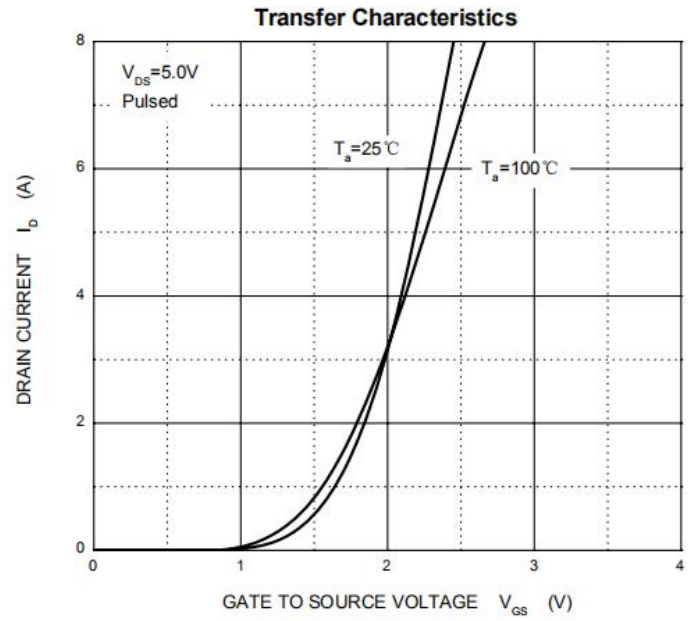
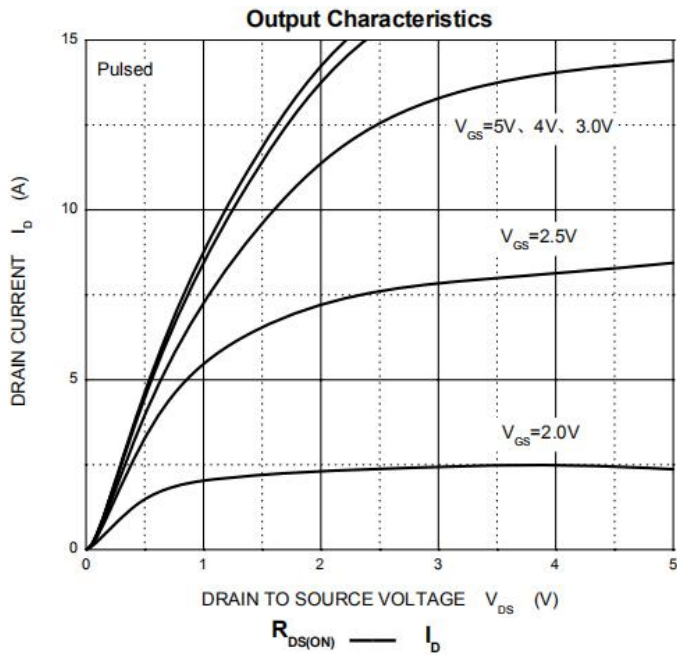
Dynamic Characteristics (note4)						
Input Capacitance	C _{iss}	V _{DS} =30V, V _{GS} =0V, f=1MHz		247		pF
Output Capacitance	C _{oss}			34		pF
Reverse Transfer Capacitance	C _{rss}			19.5		pF
Switching Characteristics (note 4)						
Turn-on delay time	t _{d(on)}	V _{DS} = 30 V, I _D =1.5A, V _{GS} =10V, R _{GEN} =1 Ω		6		ns
Turn-on rise time	t _r			15		ns
Turn-off delay time	t _{d(off)}			15		ns
Turn-off fall time	t _f			10		ns
Total Gate Charge	Q _g	V _{DS} =30V, V _{GS} = 4.5 V, I _D = 3A		6		nC
Gate-Source Charge	Q _{gs}			1		nC
Gate-Drain Charge	Q _{gd}			1.3		nC

***Notes :**

1. Repetitive rating: Pulse width limited by maximum junction temperature
2. Surface Mounted on FR4 board, t_s≤10 sec.
3. Pulse test : Pulse width≤300μs, duty cycle≤2%.
4. Guaranteed by design, not subject to production.

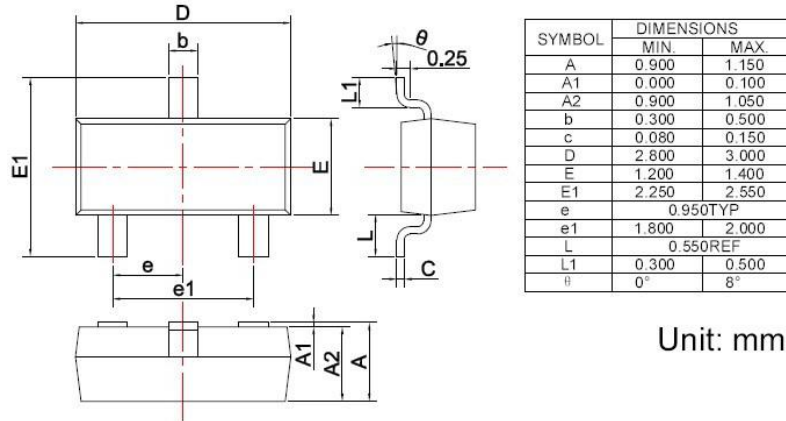


Typical characteristics

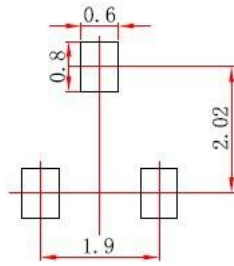




Package Outline Dimensions



Precautions: PCB Design



- Note:
1. Controlling dimension: In millimeters.
 2. General tolerance: ± 0.05mm.
 3. The pad layout is for reference purposes only.

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