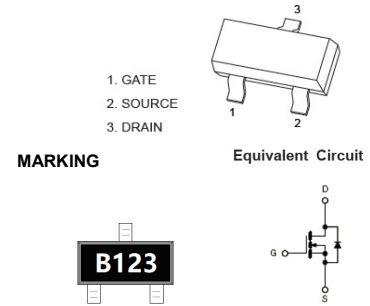


Features

- TrenchFET Power MOSFET
- Load Switch for Portable Devices.
- DC/DC Converter.

Mechanical Data

- SOT-23 Small Outline Plastic Package.
- Epoxy UL: 94V-0.
- Mounting Position: Any.

SOT-23


V(BR)DSS	RDS(ON)MAX	ID
100V	6Ω@10V	0.17A
	10Ω@4.5V	

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

Parameters	Symbol	Value	Unit
Drain-Source Voltage	V _{DS}	100	V
Drain-Source Voltage R _{GS} ≤ 20K Ω	V _{DRG}	100	V
Gate-Source Voltage	V _{GS}	± 20	V
Continuous Drain Current (note1)	I _D	0.17	A
Pulsed Drain Current (tp=10us)	I _{DM}	0.68	A
Power Dissipation	P _D	350	mW
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-50-+150	°C
Thermal Resistance From Junction to Ambient (note1)	R _{θJA}	357	°C/W

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

Parameter	Symbols	Test Condition	Limits			Unit
			Min	Typ	Max	
Static						
Drain-Source Breakdown Voltage	V(BR)DSS	V _{GS} =0V, I _D =250uA	100			V
Gate-Threshold voltage(note2)	V _{GS} (th)	V _{DS} =V _{GS} , I _D =250uA	1.0	1.6	2.0	V
Gate-body Leakage	I _{GSS}	V _{DS} =0V, V _{GS} =± 20V			± 50	nA
Zero Gate Voltage Drain current	I _{DSS}	V _{DS} =100V, V _{GS} =0V			1.00	uA
		V _{DS} =20V, V _{GS} =0V			0.01	
Drain-Source On-Resistance (note2)	RDS(ON)	V _{GS} =10V, I _D =0.17A			6	Ω
		V _{GS} =4.5V, I _C =0.17A			10	
Forward trans conductance (note2)	g _{fs}	V _{DS} =10V, I _D =0.17A	80			mS
Diode forward voltage	V _{SD}	I _S =0.34A, V _{GS} =0V			1.3	V
Dynamic(note4)						
Input capacitance	C _{iss}	V _{DS} =25V, V _{GS} =0V, f=1MHz		29	60	pF
Output capacitance	C _{oss}			10	15	
Reverse Transfer capacitance	C _{rss}			2	6	
Switching(note3,4)						
Turn-on Time	td(on)	V _{DD} =30V, R _{GEN} =50Ω, V _{GS} =10V, I _D =0.28A,			8	ns
Rise time	tr				8	
Turn-off Time	td(off)				13	
Fall time	tf				16	
Total Gage Charge	Q _g	V _{DS} =10V, V _{GS} =10V, I _D =0.22A,		1.4	2	nC
Gate-Source Charge	Q _{gs}			0.15	0.25	
Gate-Drain Charge	Q _{gd}			0.2	0.4	

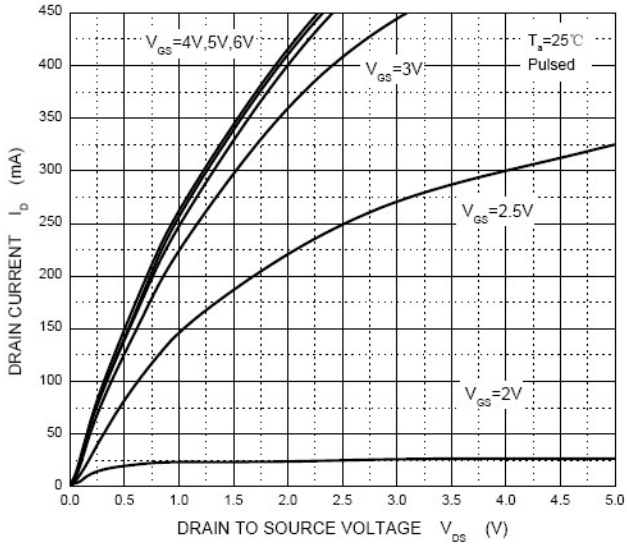
Notes: 1). Surface mounted on FR4 board using the minimum recommended pad size.

2). Pulse Test: Pulse Width ≤ 300us, Duty Cycle ≤ 2%.

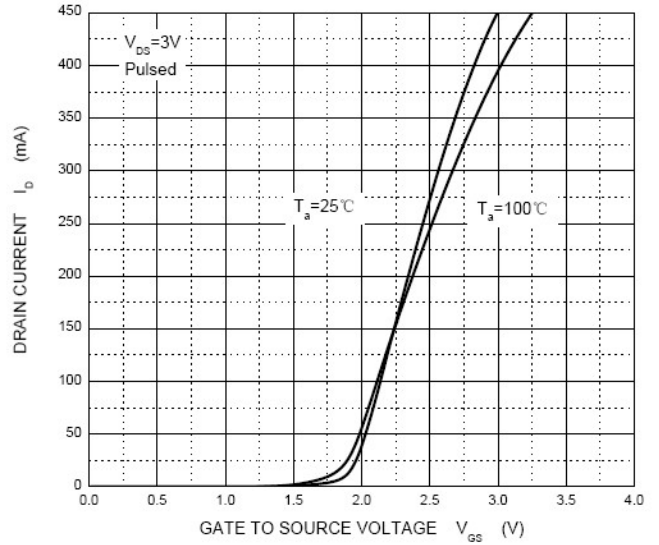
3). Switching characteristics are independent of operating junction temperature.

Typical characteristics

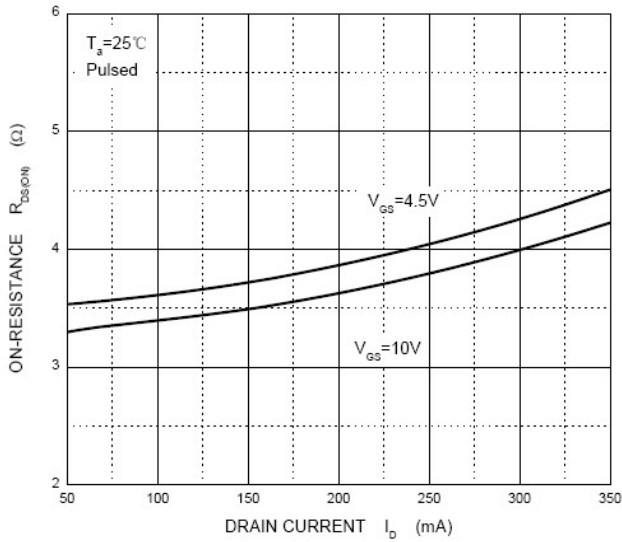
Output Characteristics



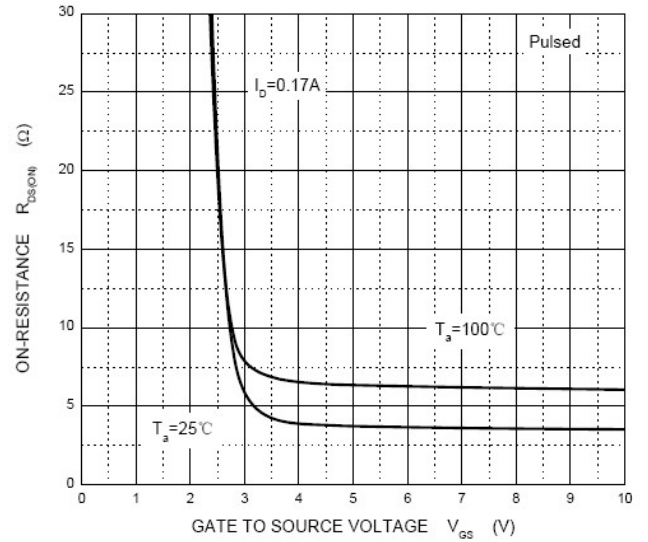
Transfer Characteristics



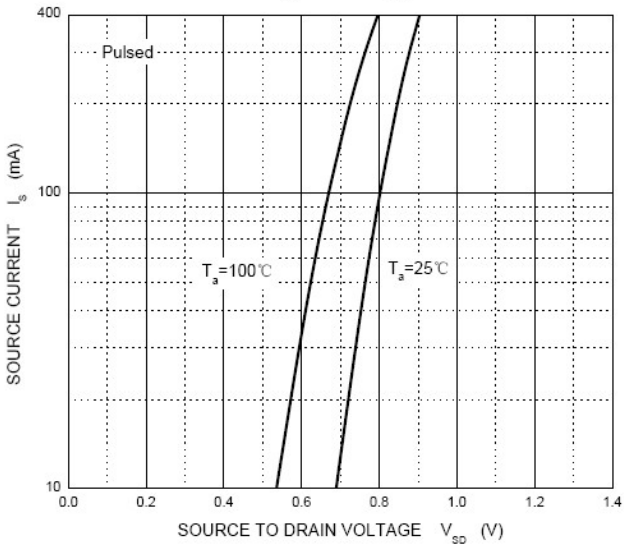
$R_{DS(ON)}$ — I_D



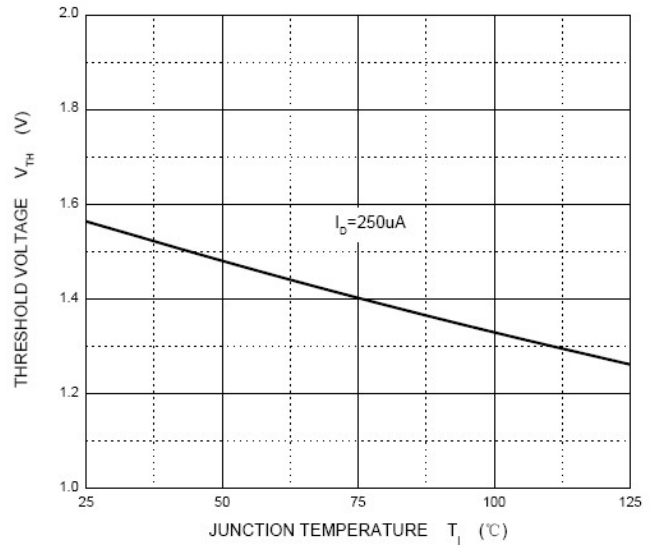
$R_{DS(ON)}$ — V_{GS}



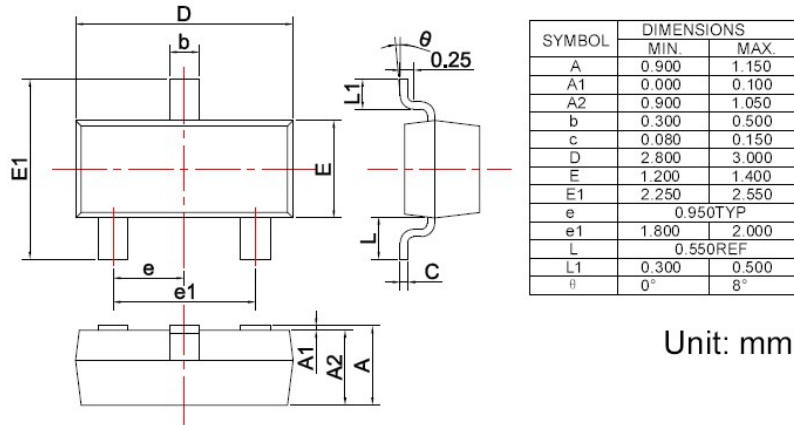
I_S — V_{SD}



Threshold Voltage

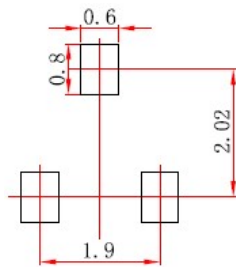


SOT-23 PACKAGE OUTLINE Plastic surface mounted package



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.

Revision history

Date	Revision	Changes
28-May-2020	1.0	Initial release

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