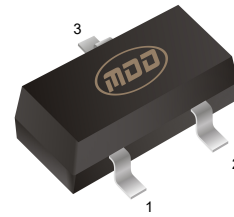


SOT-23

$V_{(BR)DSS}$	$R_{DS(on) Typ}$	$I_D Max$
30V	23mΩ@10V	5.8A
	31mΩ@4.5V	



1. Gate
2. Source
3. Drain

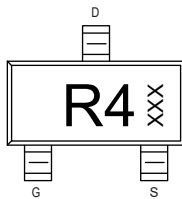
Features

Advanced trench process technology
High Density Cell Design For Ultra Low On-Resistance

Application

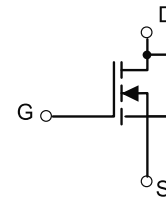
- Load Switch for Portable Devices
- DC/DC Converter

Marking



XXX:Date Code

Equivalent Circuit



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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	5.8	A
Pulsed Drain Current (Note 1)	I_{DM}	30	A
Power Dissipation(Note 2)	P_D	1.4	W
Thermal Resistance from Junction to Ambient(Note 2)	$R_{\theta JA}$	150	$^{\circ}C/W$
Junction Temperature and Storage Temperature	T_J, T_{stg}	-50 ~150	$^{\circ}C$

Notes: Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

Ta = 25°C unless otherwise specified

Symbol	Parameter	Condition	Min	Typ	Max	Unit
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250μA	30	--	--	V
I _{DSS}	Drain-Source Leakage Current	V _{DS} =30V, V _{GS} =0V	--	--	1	uA
I _{GSS}	Gate-Source Leakage Current	V _{GS} =±20V, V _{DS} =0V	--	--	±100	nA
V _{GS(TH)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250μA	1.1	--	3.0	V
R _{DS(ON)}	Drain-Source On-State Resistance(Note 3)	V _{GS} =10V, I _D =5.8A	--	23	30	mΩ
		V _{GS} =4.5V, I _D =3A	--	31	42	mΩ

Dynamic Electrical Characteristics

Symbol	Parameter	Condition	Min	Typ	Max	Unit
C _{iss}	Input Capacitance	V _{DS} =15V V _{GS} =0V f=1MHz	--	--	820	pF
C _{oss}	Output Capacitance		--	118	--	pF
C _{riss}	Reverse Transfer Capacitance		--	85	--	pF
Q _g	Total Gate Charge	V _{DS} =15V	--	9.7	1.2	nC
Q _{gs}	Gate Source Charge	V _{GS} =4.5V	--	1.6	--	nC
Q _{gd}	Gate Drain Charge	I _D =5.8A	--	3.1	--	nC

Switching Characteristics

Symbol	Parameter	Condition	Min	Typ	Max	Unit
t _{d(on)}	Turn on Delay Time	V _{DS} =15V V _{GS} =4.5V	--	3.3	5	ns
t _r	Turn on Rise Time		--	4.8	7	ns
t _{d(off)}	Turn Off Delay Time	I _D =5A R _G =2.7Ω	--	26.3	40	ns
t _f	Turn Off Fall Time		--	4.1	6	ns

Source Drain Diode Characteristics

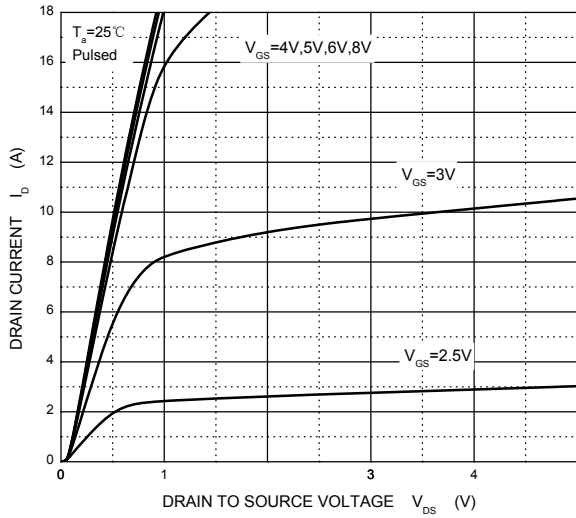
Symbol	Parameter	Condition	Min	Typ	Max	Unit
I _{SD}	Source drain current(Body Diode)	T _A =25°C	--	--	2.5	A
V _{SD}	Drain-Source Diode Forward Voltage	I _S =1A, V _{GS} =0V	--	0.7	1.1	V

- Notes:**
- 1.Pulse width limited by maximum allowable junction temperature
 - 2.The value of P_D&R_{θJA} is measured with the device mounted on 1 in² FR-4 board with 2oz.Copper, double sided, in a still air environment with Ta=25°C.
 - 3.Pulse test ; Pulse width≤300us, duty cycles≤2%

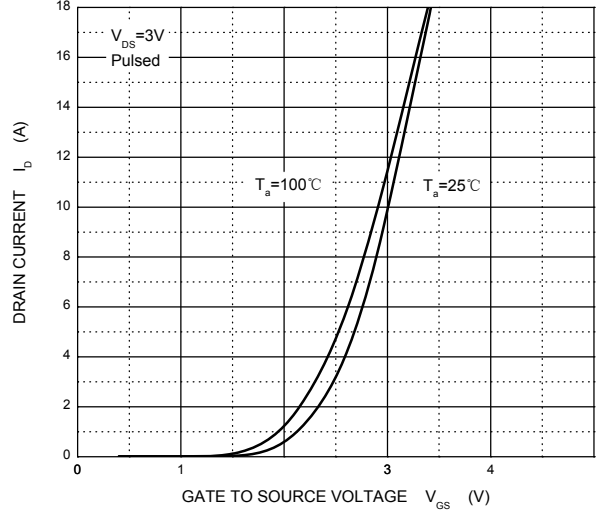


Typical Characteristics

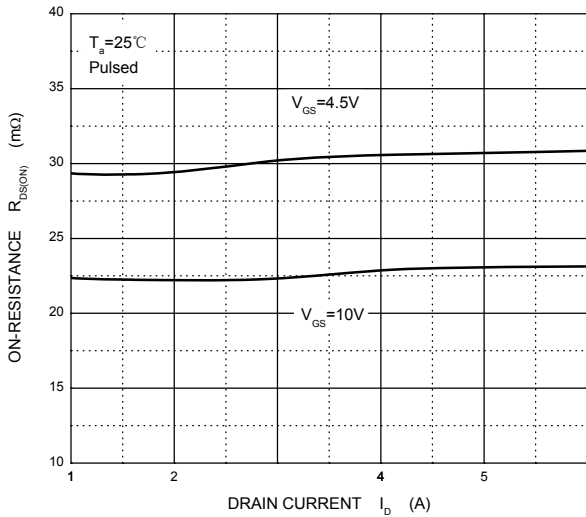
Output Characteristics



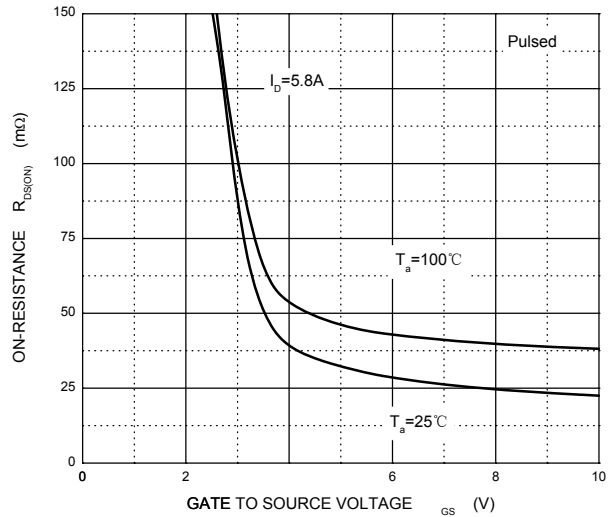
Transfer Characteristics



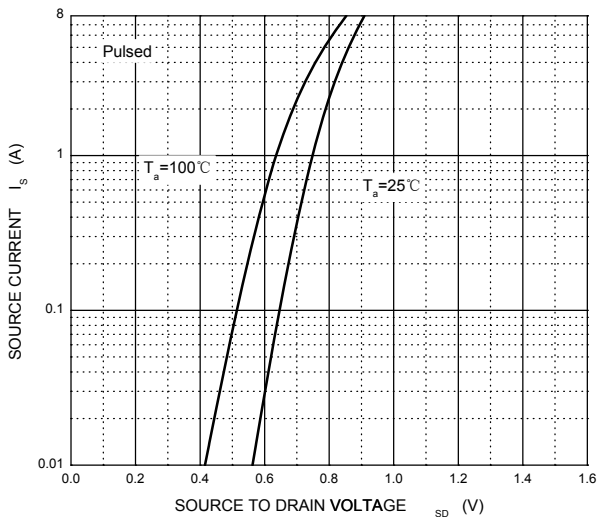
$R_{DS(ON)}$ — I_D



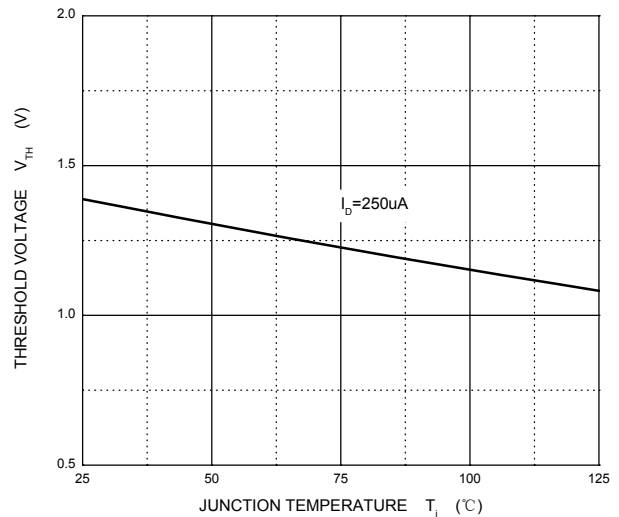
$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}



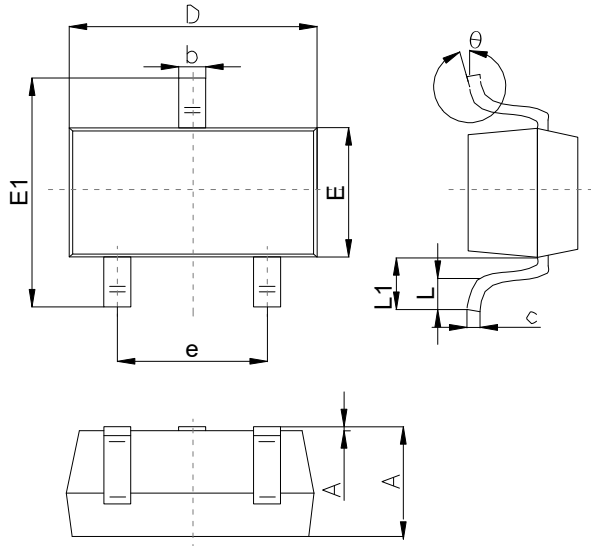
Threshold Voltage



The curve above is for reference only.

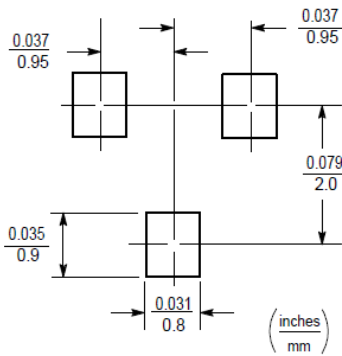
Outline Drawing

SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		
	Min	Typ	Max
A	0.90		1.40
A1	0.00		0.10
b	0.30		0.50
c	0.08		0.20
D	2.80	2.90	3.10
E	1.20		1.60
E1	2.25		2.80
e	1.80	1.90	2.00
L	0.10		0.50
L1	0.4		0.55
θ	0°		10°

Suggested Pad Layout



Note:

1. Controlling dimension: in/millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

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