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Product Summary

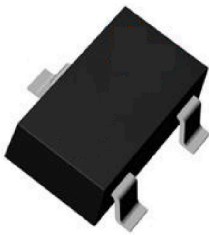| $V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
-50V	8Ω@-10V	-0.13A
	10Ω@-4.5V	

Feature

- Advanced trench process technology
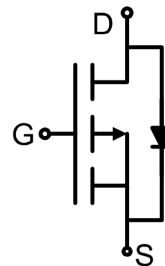- High density cell design for ultra low on-resistance

Application

- Load Switch for Portable Devices
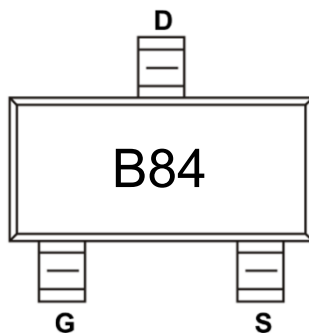- DC/DC Converter
- Battery−powered products

Package

SOT-23

Circuit diagram

Marking

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Absolute maximum ratings (Ta=25C° unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-50	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	-0.13	A
Pulsed Drain Current	I_{DM}	-0.52	A
Power Dissipation	P_D	0.225	W
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	556	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55 ~ +150	℃

Electrical characteristics (T_A=25 ^{o}C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =-250µA	-50			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =-50V,V_{GS} = 0V			-1	µA
Gate-body leakage current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±100	nA
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250µA	-0.8	-1.5	-2.5	V
Drain-source on-resistance[1]	$R_{DS(on)}$	V_{GS} =-10V, I_D =-0.15A			8	Ω
		V_{GS} =-4.5V, I_D =-0.15A			10	
Dynamic characteristics[2]						
Input Capacitance	C_{iss}	V_{DS} =-30V,V_{GS} =0V,f =1MHz		30		pF
Output Capacitance	C_{oss}			10		
Reverse Transfer Capacitance	C_{rss}			5		
Turn-on delay time	$t_{d(on)}$	V_{DD}=-30V,V_{GS}=-4.5V, I_D =-0.15A,R_{GEN}=2.53Ω		2.5		nS
Turn-on rise time	t_r			1		
Turn-off delay time	$t_{d(off)}$			16		
Turn-off fall time	t_f			8		
Source-Drain Diode characteristics						
Diode Forward Current[1]	I_S				-0.13	A
Diode Forward voltage	V_{DS}	V_{GS} =0V, I_S=-0.13A			-1.2	V

Notes:

1) Pulse Test: Pulse Width < 300µs, Duty Cycle ≤2%.

2) Guaranteed by design, not subject to production testing.

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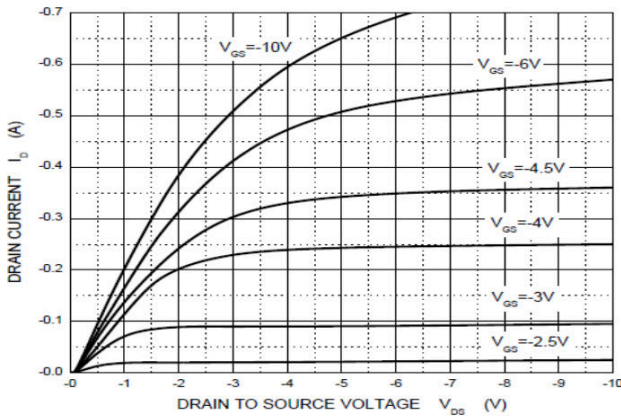## Typical Characteristics

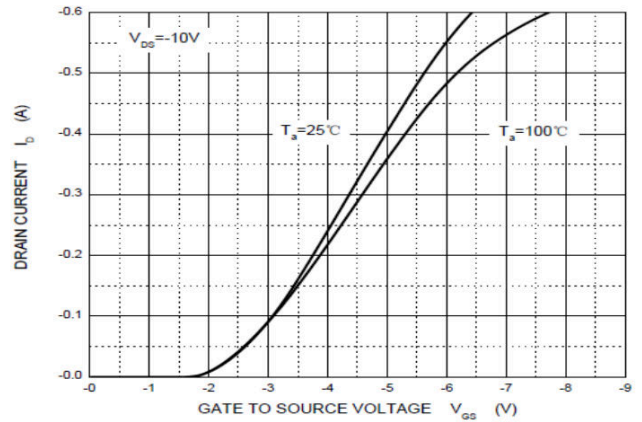Figure1. Output Characteristics
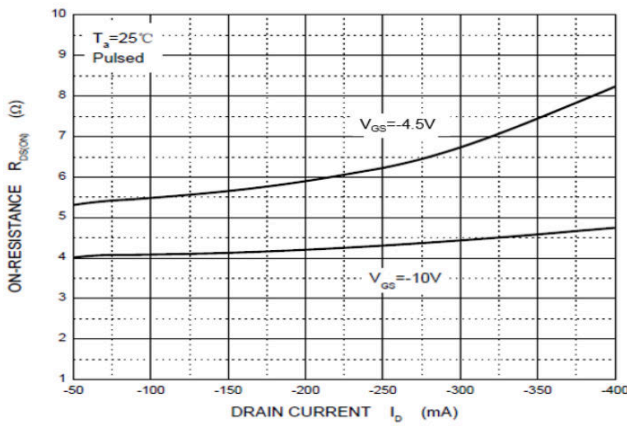

Figure2. Transfer Characteristics

Figure3. Drain-Source on Resistance
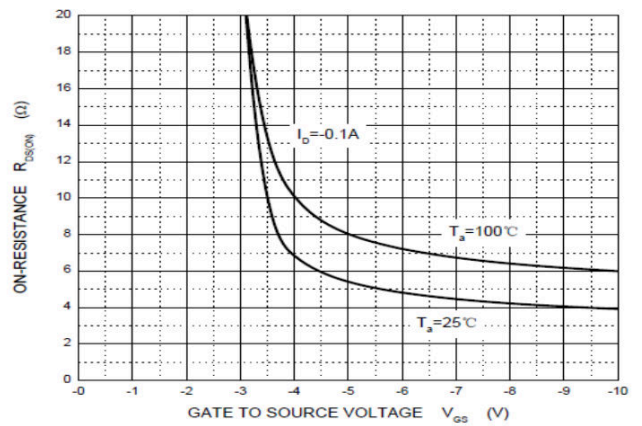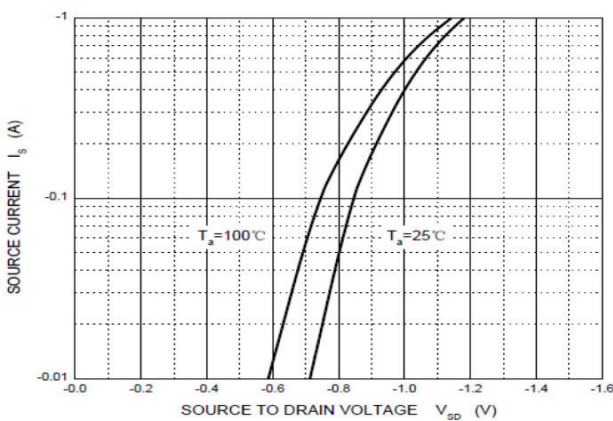

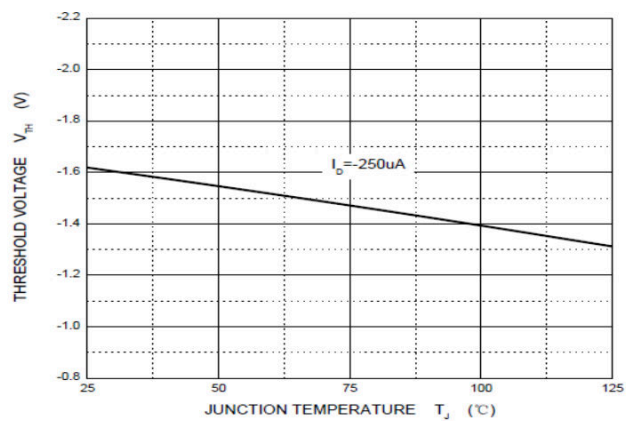Figure4. Drain-Source on Resistance

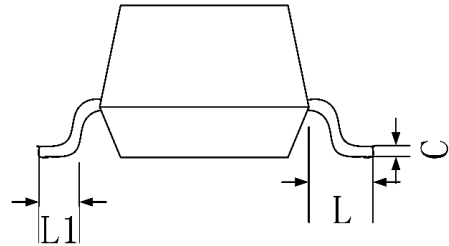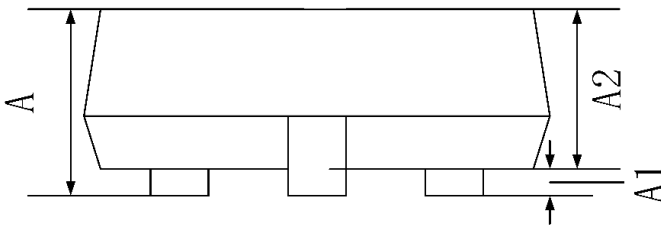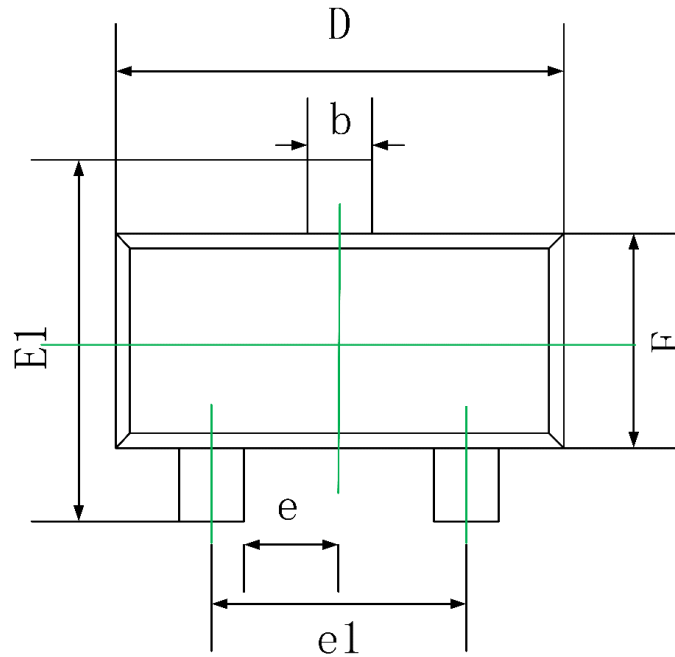Figure5. Diode Forward Voltage vs. current

Figure6. Gate Threshold vs. Junction Temperature

SOT-23 Package Information

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP.		0.037 TYP.	
e1	1.800	2.000	0.071	0.079
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020

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