BORN SEMICONDUCTOR

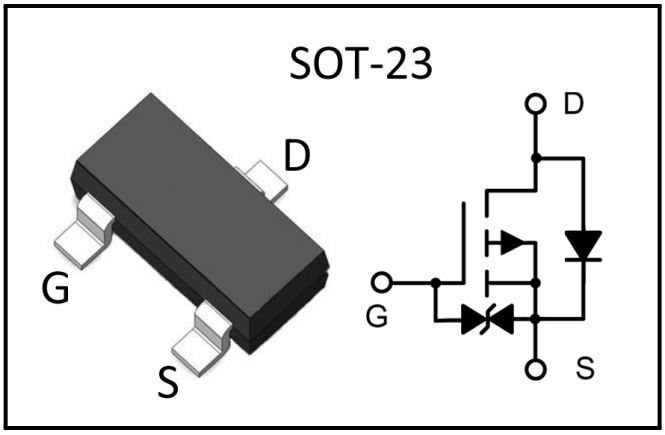
BSS84

P-Channel MOSFET

Features

- V_{DS}=-50V
- I_D=-0.13A
- $R_{DS(ON)}$ @V_{GS}=-10V, MAX=8Ω
- $R_{DS(ON)}$ @V_{GS}=-4.5V, MAX=10Ω

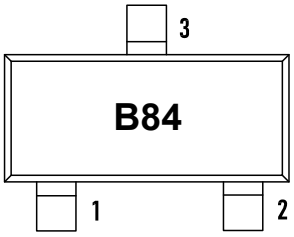
Package



General Description

- Advanced trench process technology
- High Density Cell Design For Ultra Low On-Resistance
- SOT-23 for Surface Mount Package.

Marking



Ordering information

Order code	Package	Marking	Base qty	Delivery mode
BSS84	SOT-23	B84	3K	Tape and reel

Absolute Maximum Ratings (@T_A=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{DS}	Drain-Source Voltage	-50	V
V_{GS}	Gate-Source Voltage	±20	V
I_D	Continuous Drain Current	-0.13	A
I_{DM}	Pulsed Drain Current(t_p=10s)	-0.5	A
P_D	Maximum Power Dissipation	350	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient (t ≤ 5s)	350	°C/W
T_J,T_{stg}	Operation Junction And Storage Temperature Range	-55 to +150	°C

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BSS84

P-Channel MOSFET

Electrical Characteristics @T_A=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
Static						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	V_{GS} = 0V, I_D =-250uA	-50	–	–	V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS} = V_{GS}, I_D = -250uA	-0.8	–	-2.0	V
I_{GSS}	Gate Leakage Current	V_{GS} = ±10V,V_{DS} =0V	–	–	±10	uA
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS} = -50V, V_{GS} = 0V	–	–	-10	uA
		V_{DS} = -40V, V_{GS} = 0V	–	–	-0.1	
$R_{DS(on)}$	Drain-Source On-State Resistance(1)	V_{GS} = -10V, I_D = -0.13A	–	–	8	Ω
		V_{GS} = -4.5V, I_D = -0.13A	–	–	10	
g_{fS}	Forward tranconductance(1)	V_{DS}=-25V, I_D =-0.13A	50	–	–	mS
V_{SD}	Diode Forward Voltage	I_S = -0.13A,V_{GS} = 0V	–	–	-1.0	V
Dynamic						
C_{iss}	Input Capacitance	V_{DS} = -25V,	–	25	–	pF
C_{oss}	Output Capacitance	V_{GS} = 0V,	–	15	–	
C_{rss}	Reverse Transfer Capacitance(2)	f = 1.0MHZ	–	3.5	–	
Switching(2)						
$t_{d(on)}$	Turn-On Delay Time	V_{GS}=-10V	–	16.7	–	ns
t_r	Turn-On Rise Time	V_{DS} = -15V,	–	8.6	–	
$t_{d(off)}$	Turn-Off Delay Time	I_D =-0.2A	–	17.9	–	
t_f	Turn-Off Fall Time	R_{GEN} =25Ω	–	5.3	–	

Notes:

(1)Pulse test:Pulse width ≤300μs,duty cycle ≤2%.

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

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P-Channel MOSFET

Typical Performance Characteristics(T_J = 25 °C, unless otherwise noted)

Figure 1 :Output Characteristics

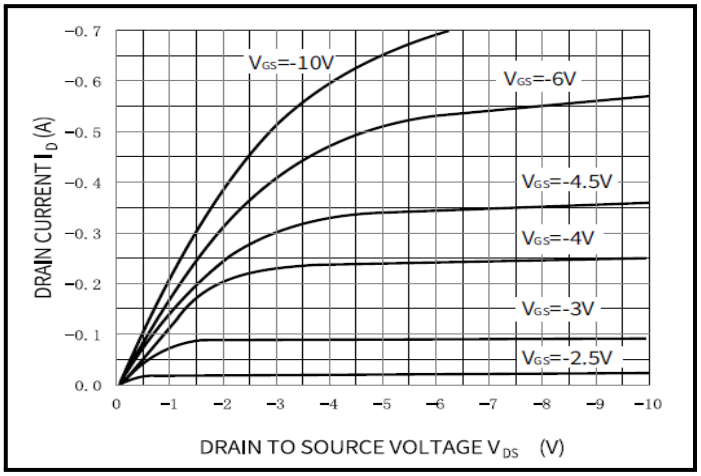


Figure 2 : Transfer Characteristics

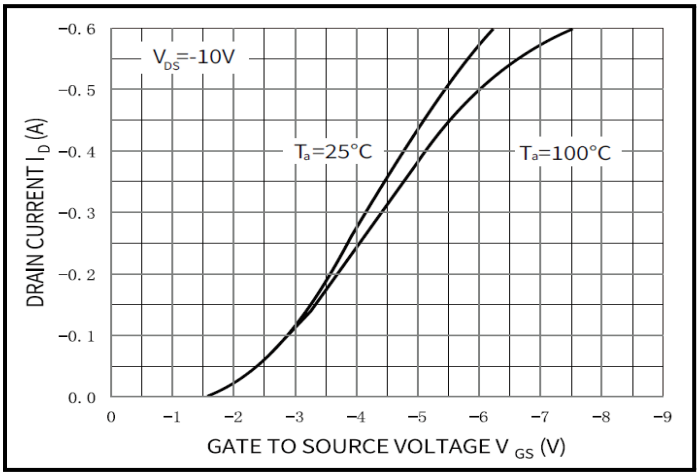


Figure 3 :Drain Source On Resistance

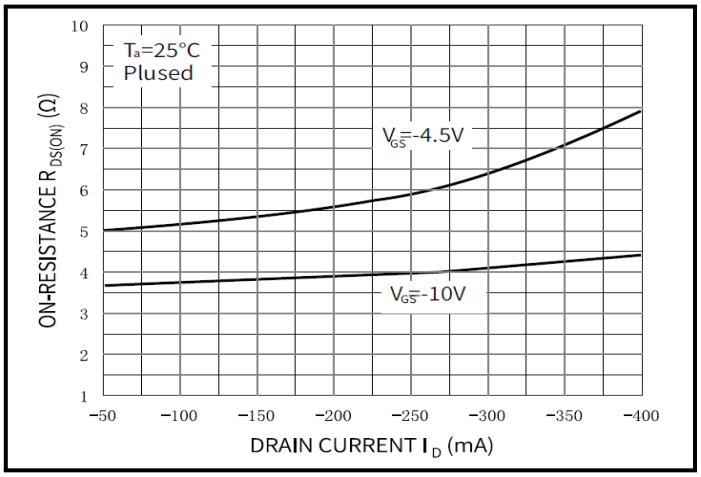


Figure 4 :Gate to Source Voltage On Resistance

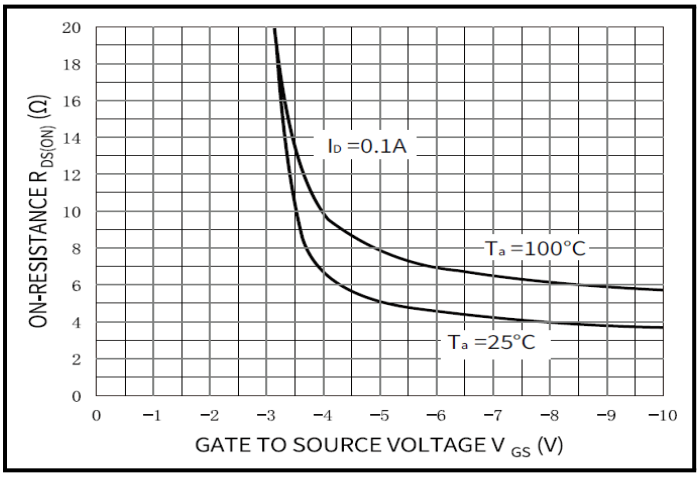


Figure 5 :Diode Forward Voltage vs. Current

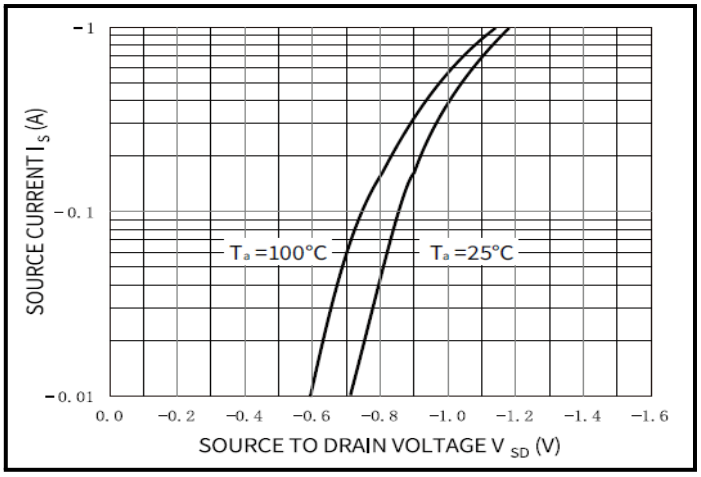
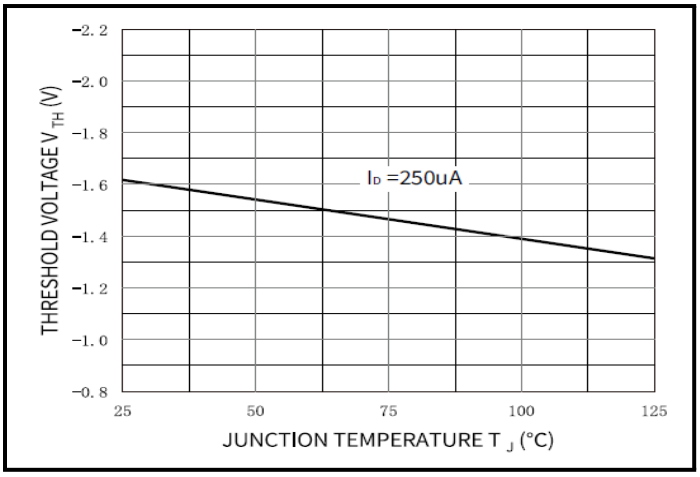


Figure 6 :Gate Threshold vs. Junction Temperature



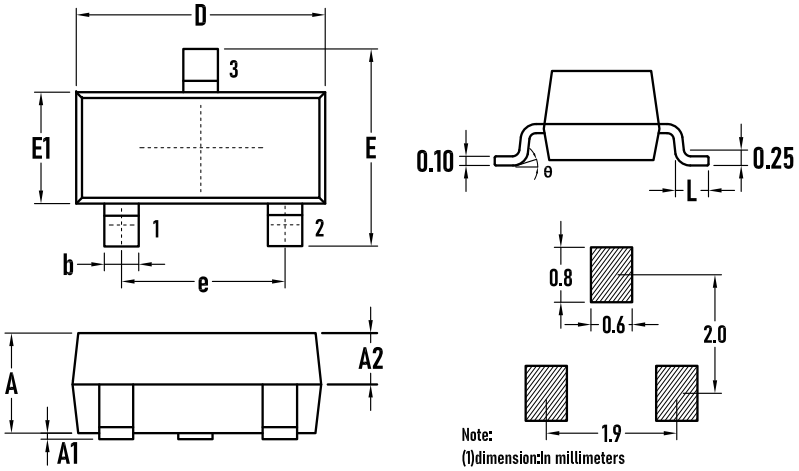
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BSS84

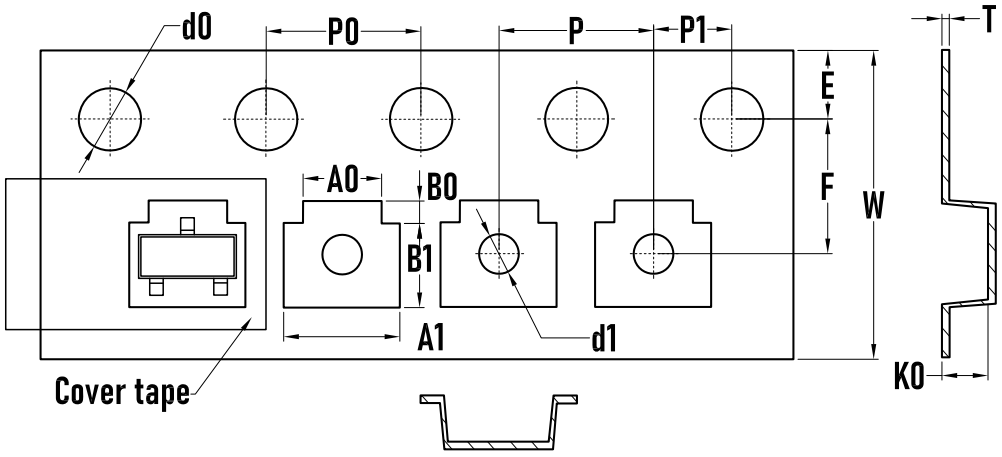
P-Channel MOSFET

Outline Drawing - SOT-23



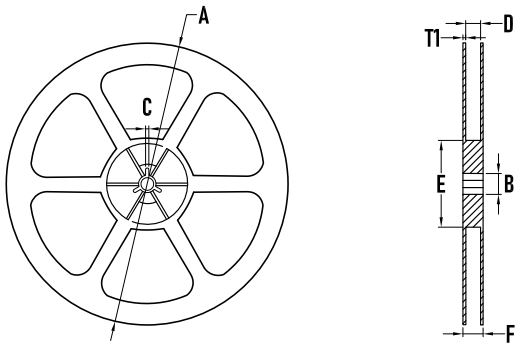
SYMBOL	MILLIMETER		
	MIN.	Typ.	MAX.
A	0.90	1.00	1.10
A1	0.01	–	0.10
A2	0.50	0.60	0.70
D	2.80	2.90	3.00
b	0.25	0.35	0.45
E	2.10	2.30	2.50
E1	1.20	1.30	1.40
e	1.80	1.90	2.00
L	0.25	0.35	0.45
θ	0	–	8°

Packaging Tape - SOT-23



SYMBOL	MILLIMETER
A0	2.10±0.10
A1	3.10±0.10
B0	0.65±0.10
B1	2.75±0.10
d0	1.55±0.10
d1	1.00±0.05
E	1.75±0.10
F	3.50±0.10
K0	1.10±0.10
P	4.00±0.10
P0	4.00±0.10
P1	2.00±0.10
W	8.00±0.30
T	0.20 ±0.05

Packaging Reel



SYMBOL	MILLIMETER
A	177.8±0.2
B	3.1
C	13.50
D	9.6±0.3
E	75±0.2
F	12.3±0.3
T1	1.0±0.2
Quantity	3000PCS

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