

BSS84

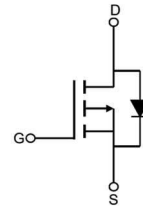
P-Channel Enhancement Mosfet

Feature

- -60V,-170mA
 $R_{DS(ON)} < 8.0 \Omega @ V_{GS}=10V$
 $R_{DS(ON)} < 10 \Omega @ V_{GS}=4.5V$
- Advanced Trench Technology
- Low $R_{DS(ON)}$
- Low Gate Charge

Application

- Power management
- Video montior



Schematic Diagram



SOT-23 top view

Package Marking and Ordering Information

Device Marking	Device	Device Package	Reel Size	Tape width	Quantity (PCS)
B84.	BSS84	Sot-23	7 inch	-	3000

ABSOLUTE MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-60	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current ($T_a=25^\circ\text{C}$)	I_D	-170	mA
Continuous Drain Current ($T_a=70^\circ\text{C}$)	I_D	-140	mA
Pulsed Drain Current	I_{DM}	-0.68	A
Power Dissipation	P_D	0.225	W
Thermal Resistance from Junction to Ambient ⁽⁴⁾	$R_{\theta JA}$	556	$^\circ\text{C}/\text{W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^\circ\text{C}$

MOSFET ELECTRICAL CHARACTERISTICS($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =-250μA	-60	-	-	V
Zero gate voltage drain current	I _{DSS}	V _{DS} =-60V, V _{GS} = 0V	-	-	-1	μA
Gate-body leakage current	I _{GSS}	V _{GS} =±20V,V _{DS} = 0V	-	-	±100	nA
Gate threshold voltage ⁽³⁾	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-0.9	-1.4	-2.0	V
Drain-source on-resistance ⁽³⁾	R _{DS(on)}	V _{GS} =-10V, I _D =-0.15A	-	3.3	8	Ω
		V _{GS} =-4.5V, I _D =-0.15A	-	3.5	10	
Dynamic characteristics						
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	-	
Switching characteristics						
Turn-on delay time	t _{d(on)}	V _{DD} =-30V, I _D =-0.15A, V _{GS} =-4.5V, R _G =2.5Ω	-	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 voltage ⁽³⁾	V _{DS}	V _{GS} =0V, I _S =-0.15A	-	-	-1.2	V
Diode Forward current ⁽⁴⁾	I _S		-	-	-170	mA

Notes:

1. Repetitive Rating: pulse width limited by maximum junction temperature
2. Pulse Test: pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$
3. Surface Mounted on FR4 Board, $t \leq 10$ sec

Typical Performance Characteristics

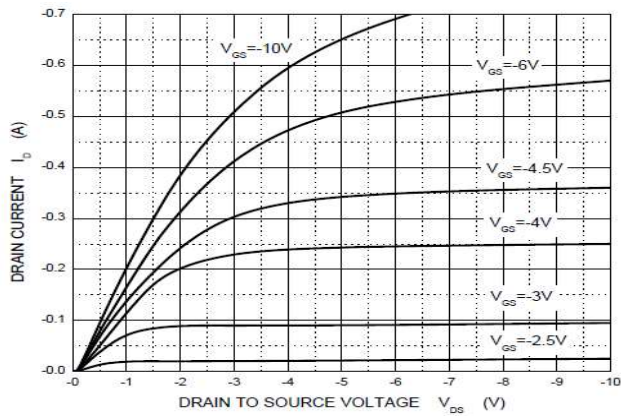


Figure1. Output Characteristics

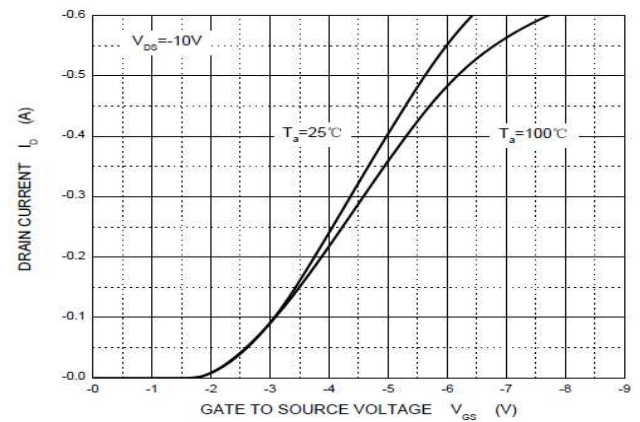


Figure2. Transfer Characteristics

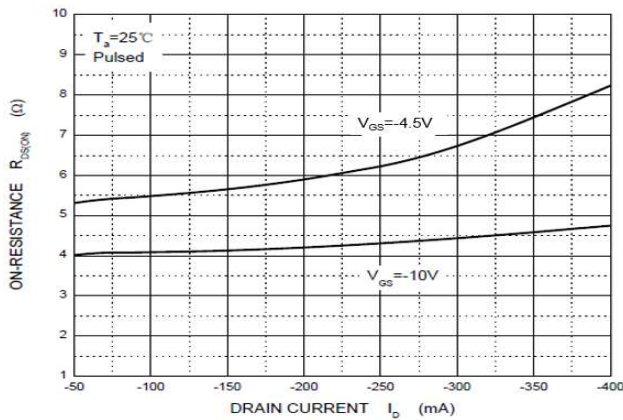


Figure3. Drain-Source on Resistance

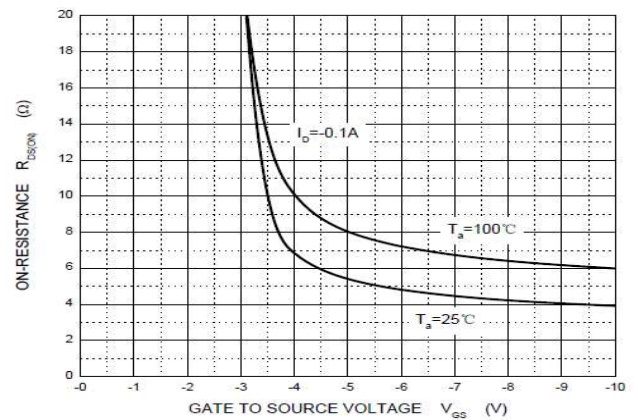


Figure4. Drain-Source on Resistance

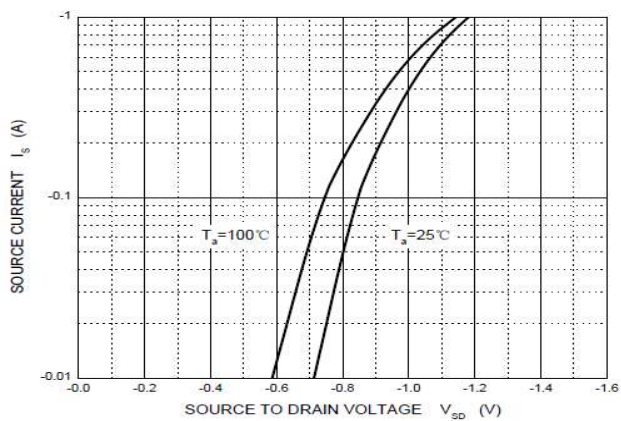


Figure5. Diode Forward Voltage vs. current

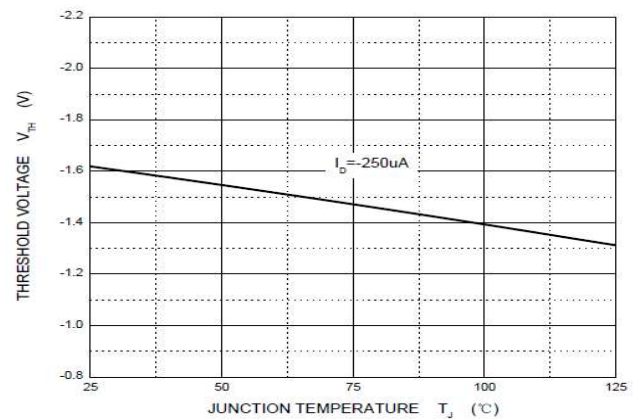
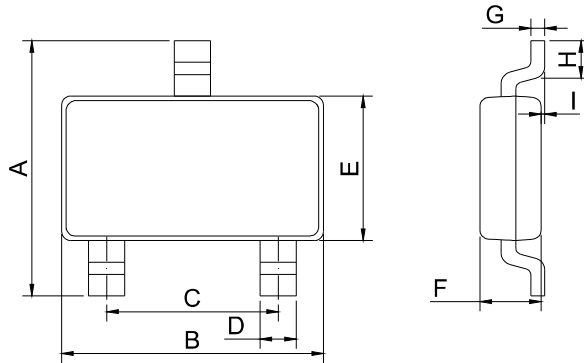


Figure6. Gate Threshold vs. Junction Temperature

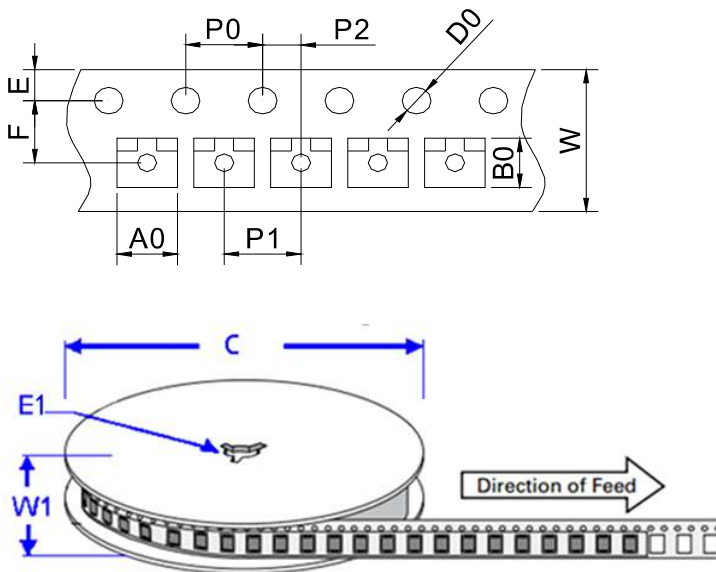
SOT-23 Package Information



SOT-23

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.30	2.40	2.50	0.091	0.095	0.098
B	2.80	2.90	3.00	0.110	0.114	0.118
C	1.90 REF			0.075 REF		
D	0.35	0.40	0.45	0.014	0.016	0.018
E	1.20	1.30	1.40	0.047	0.051	0.055
F	0.90	1.00	1.10	0.035	0.039	0.043
G		0.10	0.15		0.004	0.006
H	0.20			0.008		
I	0		0.10	0		0.004

Package Information-SOT-23



Ref.	Dimensions	
	Millimeters	Inches
A0	3.15 ± 0.3	0.124 ± 0.012
B0	2.77 ± 0.3	0.109 ± 0.012
C	178	7.0
D0	1.50±0.1	0.059 ± 0.004
E	1.75 ± 0.2	0.069 ± 0.008
E1	13.3±0.3	0.524± 0.012
F	3.5 ± 0.2	0.138 ± 0.008
P0	4.00 ± 0.2	0.157 ± 0.008
P1	4.00 ± 0.2	0.157 ± 0.008
P2	2.00 ± 0.2	0.079 ± 0.008
W	8.00 ± 0.2	0.315 ± 0.008
W1	11.5±1.0	0.453 ± 0.039