HAICHUANG SEMI

BSS84

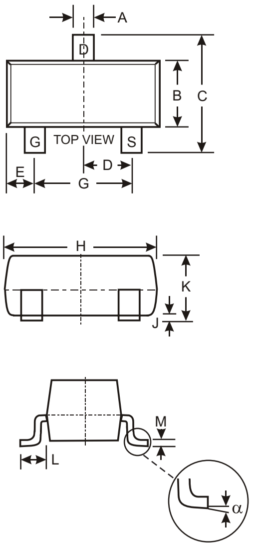
P-CHANNEL ENHANCEMENT MODE MOSFET

Features

- Low On-Resistance
- Low Gate Threshold Voltage
- Low Input Capacitance
- Fast Switching Speed
- Low Input/Output Leakage

APPLICATIONS

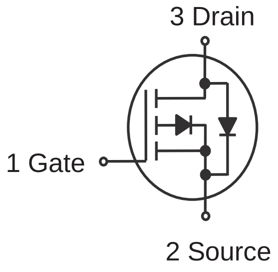
- DC−DC converters,load switching, power management in portable and battery−powered products such as computers, printers, cellular and cordless telephones.
- Marking Code:B84



SOT-23		
Dim	**Min**	**Max**
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
α	0°	8°
All Dimensions in mm		

Maximum Ratings @ $T_A = 25°C$ unless otherwise specified

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-50	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current	I_D	-0.13	A
Peak Drain Current [1]@tp<10μA	I_{DM}	-0.52	A
Power Dissipation	P_D	225	mW
Thermal Resistance from Juntion to Ambient (PCB mounted) [2]	$R_{\theta JA}$	556	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{stg}	- 55 to + 150	℃



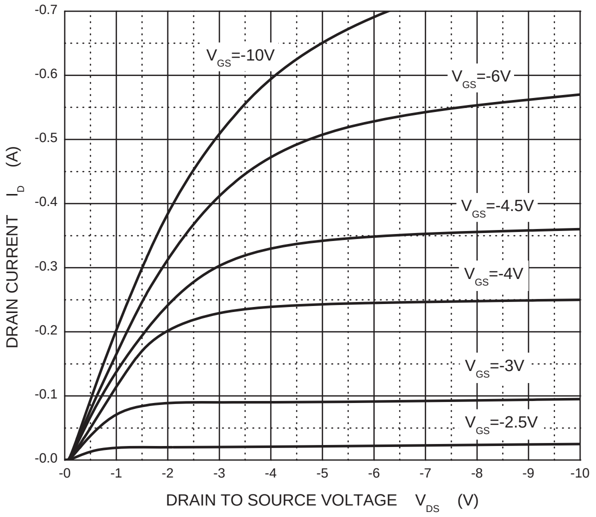
Electrical Characteristics @ T_A = 25°C unless otherwise specified

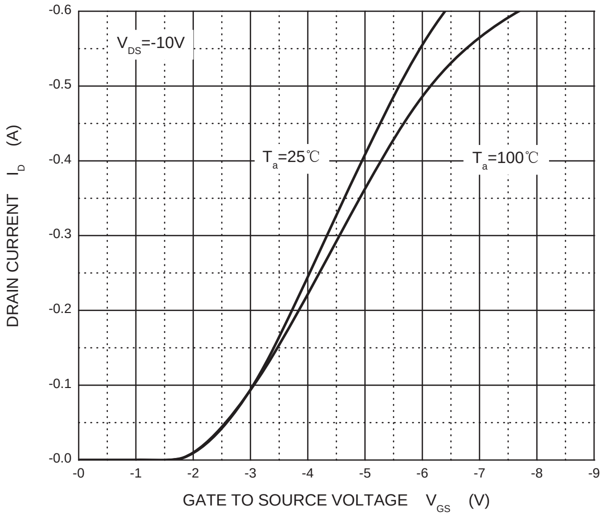
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC CHARACTERISTICS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =-250μA	-50			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =-50V,V_{GS} = 0V			-15	μA
		V_{DS} =-25V,V_{GS} = 0V			-0.1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±5	μA
Gate threshold voltage 3)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-0.9		-2	V
Drain-source on-resistance 3)	$R_{DS(on)}$	V_{GS} =-5V, I_D =-0.1A			10	Ω
		V_{GS} =-10V, I_D =-0.1A			8	Ω
Forward transconductance (note 1)	g_{FS}	V_{DS}=-25V; I_D=-100mA	50			mS
DYNAMIC CHARACTERISTICS 4)						
Input capacitance	C_{iss}	V_{DS} =5V,V_{GS} =0V,f =1MHz		30		pF
Output capacitance	C_{oss}			10		pF
Reverse transfer capacitance	C_{rss}			5		pF
SWITCHING CHARACTERISTICS 4)						
Turn-on delay time	$t_{d(on)}$	V_{DD}=-15V, R_L=50Ω, I_D =-2.5A		2.5		ns
Turn-on rise time	t_r			1		ns
Turn-off delay time	$t_{d(off)}$			16		ns
Turn-off fall time	t_f			8		ns
SOURCE−DRAIN DIODE CHARACTERISTICS						
Continuous Current	I_S				-0.13	A
Pulsed Current	I_{SM}				-0.52	A
Diode forward voltage 3)	V_{SD}	I_S=-0.13A, V_{GS} = 0V			-2.2	V

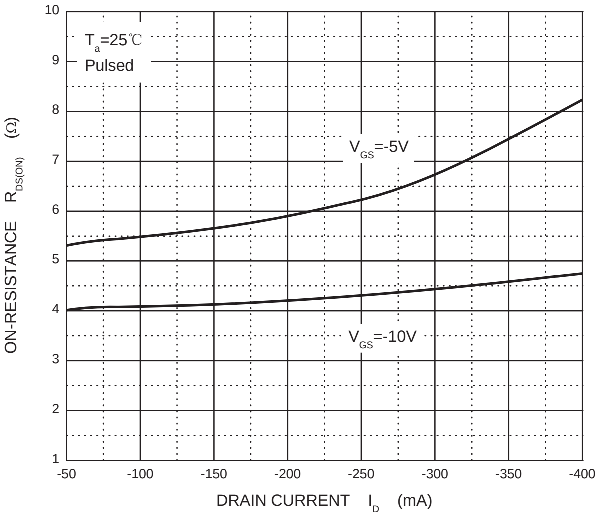
Notes :

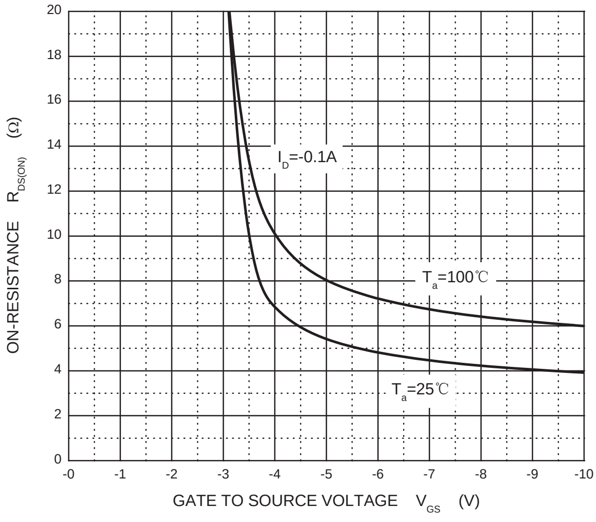
1. Repetitive rating : Pulse width limited by junction temperature.
2. Surface mounted on FR4 board , t≤10s.
3. Pulse Test : Pulse Width≤300μs, Duty Cycle≤2%.
4. Guaranteed by design, not subject to producting.

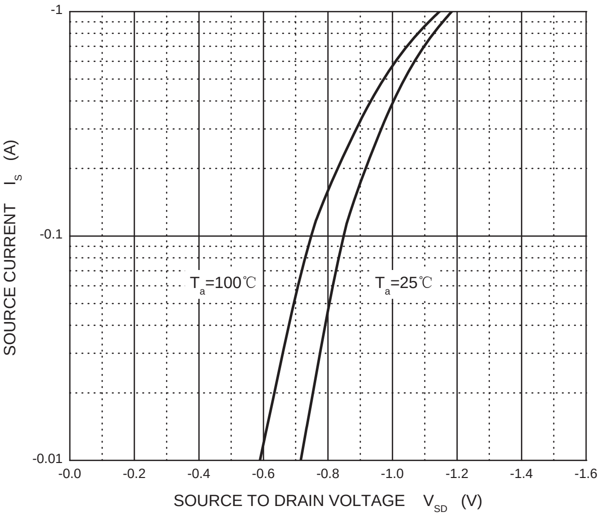
TYPICAL TRANSIENT CHARACTERISTICS

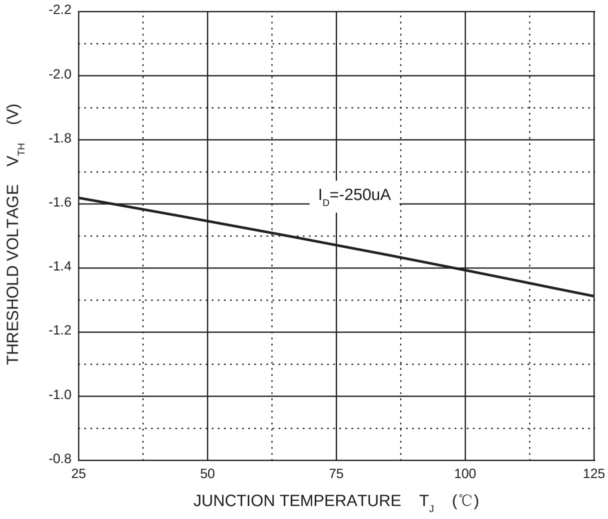

Output Characteristics


Transfer Characteristics


$R_{DS(ON)}$ —— I_D


$R_{DS(ON)}$ —— V_{GS}


I_S —— V_{SD}


Threshold Voltage

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