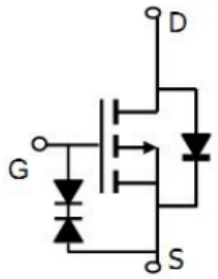
BSS84

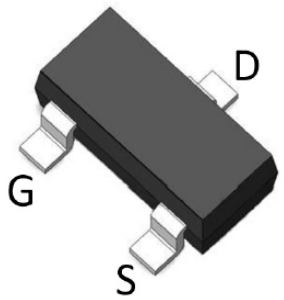
P-Channel MOSFET

»Features

V_{DS} = -50V
I_D = -0.13A
$R_{DS(ON)}$ @V_{GS} = -10V, TYP =2Ω
$R_{DS(ON)}$ @V_{GS} = -4.5V, TYP =2.5Ω

»Pin Configurations





»General Description

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

»Absolute Maximum Ratings @T_A=25℃ 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 (tp=10s)	-0.5	A
P_D	Power Dissipation	350	mW
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient (t≤5s)	350	℃/W
T_J,T_{stg}	Operation Junction And Storage Temperature Range	-55～+150	℃

»Electrical Characteristics @T_A=25℃ unless otherwise noted

Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
Static						
$V_{(BR)DSS}$	Drain-source breakdown voltage	VGS=0, ID=250μA	-50			V
$V_{GS(th)}$	Gate threshold voltage	VDS=VGS, ID=-250μA	-0.8		-2.0	V
I_{GSS}	Gate-body leakage current	VDS=0, VGS=±10V			±10	μA
I_{DSS}	Zero gate voltage drain current	VDS=-50V, VGS=0V			-10	μA
		VDS=-40V, VGS=0V			-100	nA
$R_{DS(on)}$	Drain-source on-resistance[a]	VGS=-10V, ID=-0.13A		2	5	Ω
		VGS=-4.5V, ID=-0.13A		2.5	6	Ω
g_{FS}	Forward transconductance[a]	VDS=-25V, ID=-0.13A	50			mS
V_{SD}	Diode forward voltage	IS=-0.13A,VGS=0V			-1.0	V
Dynamic						
C_{iss}	Input capacitance	VDS=-25V, VGS=0V, f=1MHz		25		pF
C_{oss}	Output capacitance			15		
C_{rss}	Reverse transfer capacitance[b]			3.5		
Switching[b]						
$t_{d(on)}$	Turn-on delay time	VGS=-10V,VDS=-15V ID=-200mA, RGEN=25Ω		16.7		nS
t_r	Rise time			8.6		
$t_{d(off)}$	Turn-off delay time			17.9		
t_f	Fall time			5.3		

Notes :
a. Pulse Test : Pulse width≤300μs, duty cycle ≤2%.
b. Guaranteed by design, not subject to producting.

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

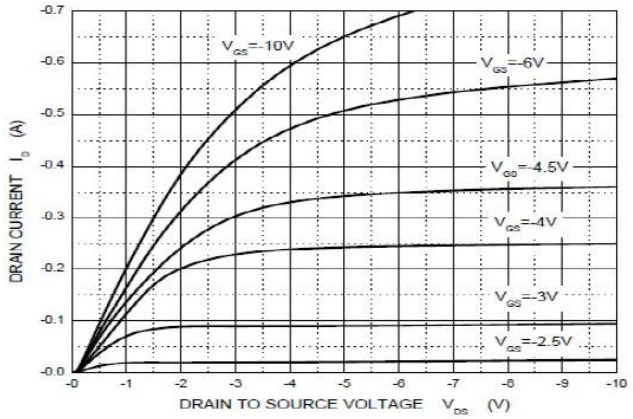


Figure1. Output Characteristics

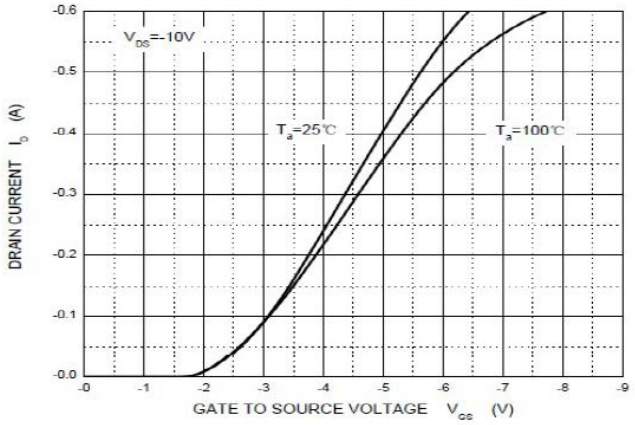


Figure2. Transfer Characteristics

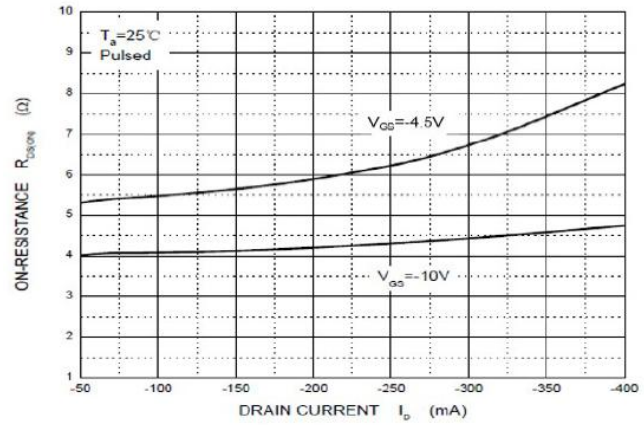


Figure3. Drain-Source on Resistance

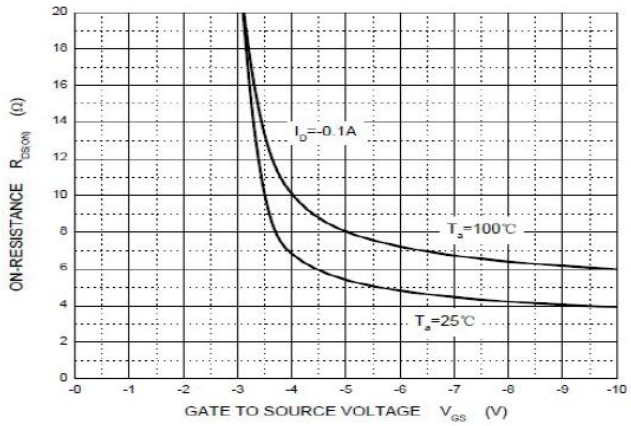


Figure4. Drain-Source on Resistance

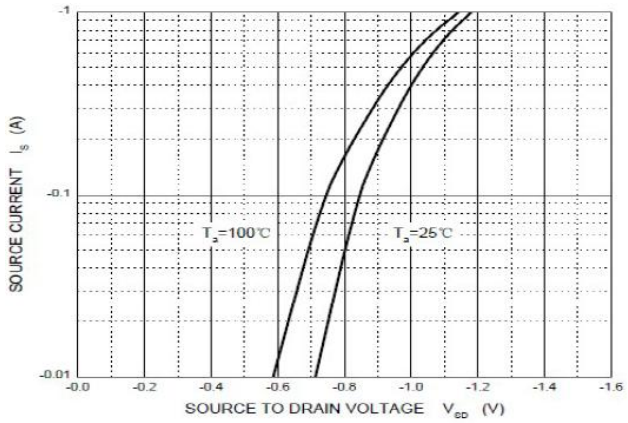


Figure5. Diode Forward Voltage vs. current

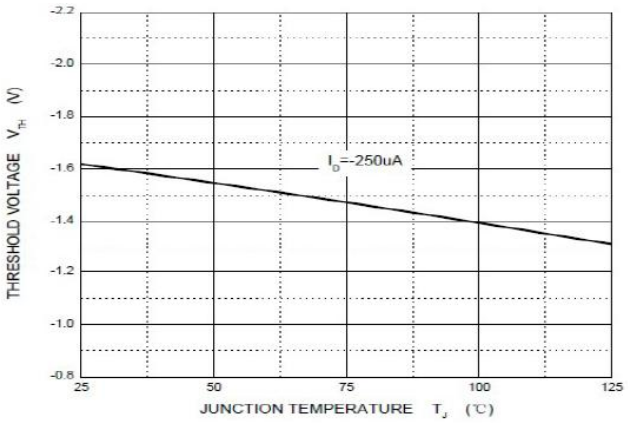
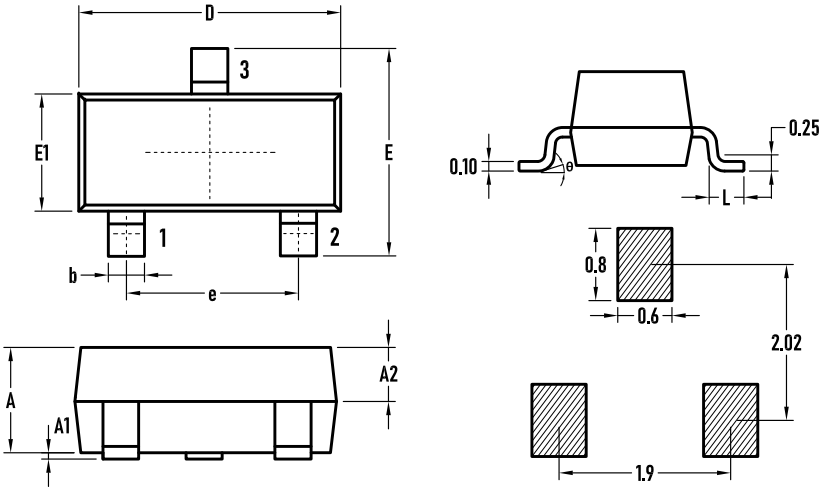


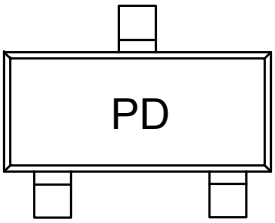
Figure6. Gate Threshold vs. Junction Temperature

»Package Information-SOT23



SYMBOL	MILLIMETER		
	MIN.	Typ.	MAX.
A	0.90	1.00	1.10
A1	0.02	0.06	0.10
A2	–	0.60	–
D	2.85	2.90	2.95
b	0.37	0.40	0.43
E	2.35	2.40	2.45
E1	1.25	1.30	1.35
e	1.85	1.90	1.95
L	0.35	0.40	0.48
θ	0	–	6°

»Marking



»Ordering information

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