BSS84
P-CHANNEL MOSFET

SOT-23 Plastic-Encapsulate MOSFETS

● Features

- V_{DSS}=-60V
- I_D=-0.17A
- $R_{DS(on)}$@VGS=-10V < 8Ω
- $R_{DS(on)}$@VGS=-4.5V < 10Ω
- Trench Power LV MOSFET technology
- Low RDS(ON)
- Low Gate Charge

● Applications

- Video monitor
- Load switch
- Power management
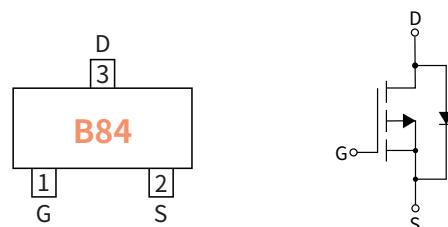
● Mechanical Data

- Case: SOT-23
  Molding compound meets UL 94V-0 flammability rating, RoHS-compliant,halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750,Method 2026

Drain-source Voltage
-60 V
Drain Current
-0.17 Ampere

SOT-23

R+O

● Function Diagram

● Maximum Ratings (Ta=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Drain-source Voltage	V_{DS}	V	-60
Gate-source Voltage	V_{GS}	V	±20
Drain Current	I_D	A	-0.17
Total Power Dissipation	P_D	W	-0.68
Junction temperature	T_J	℃	-55 ~+150
Storage temperature	T_{stg}	℃	-55 ~+150
Thermal Resistance Junction-to-Ambient @ Steady State	$R_{\theta JA}$	℃ / W	556

● Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-23	R1	0.008	3000	45000	180000	7''

● Static Parameter Characteristics (Ta=25°C Unless otherwise specified)

| PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V, I_D=-250μA	V	-60	—	—
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-60V,V_{GS}=0V	μA	—	—	-1
Gate-Body Leakage Current	I_{GSS}	V_{GS}=±20V, V_{DS}=0V	nA	—	—	±100
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}= V_{GS}, I_D=-250μA	V	-0.9	-1.4	-2.0
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=-10V, I_D=-0.15A	Ω	—	3.3	8
		V_{GS}=4.5V, I_D=-0.15A		—	3.5	10
Diode Forward Voltage	V_{SD}	I_S=-0.17A,V_{GS}=0V	V	—	—	-1.2
Maximum Body-Diode Continuous Current	I_S	—	A	—	—	-0.17
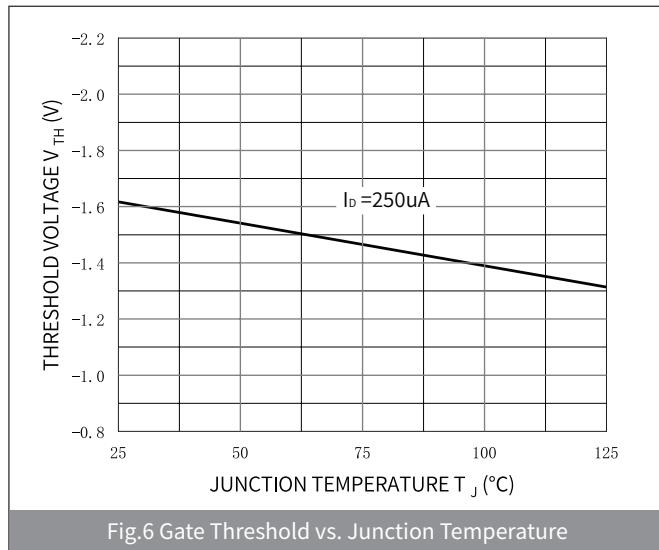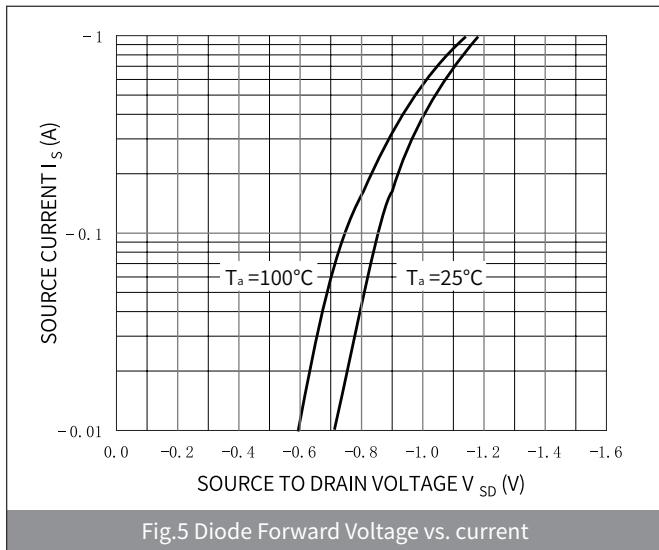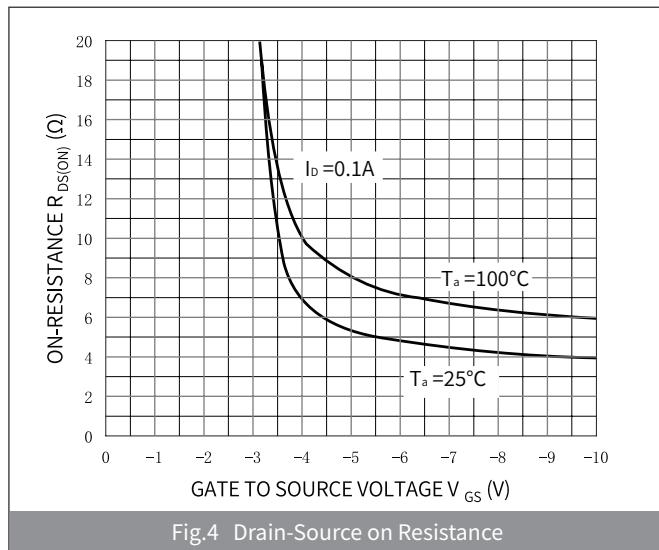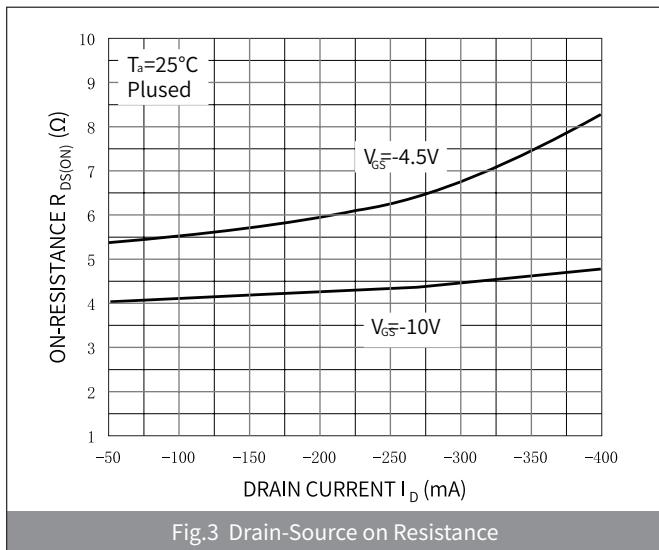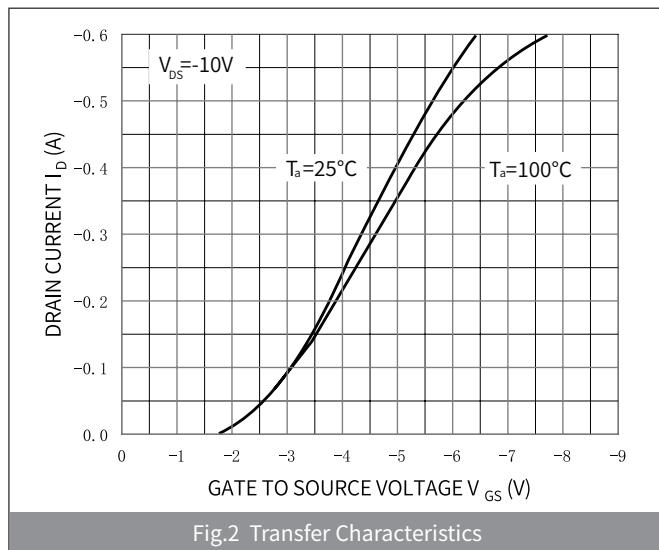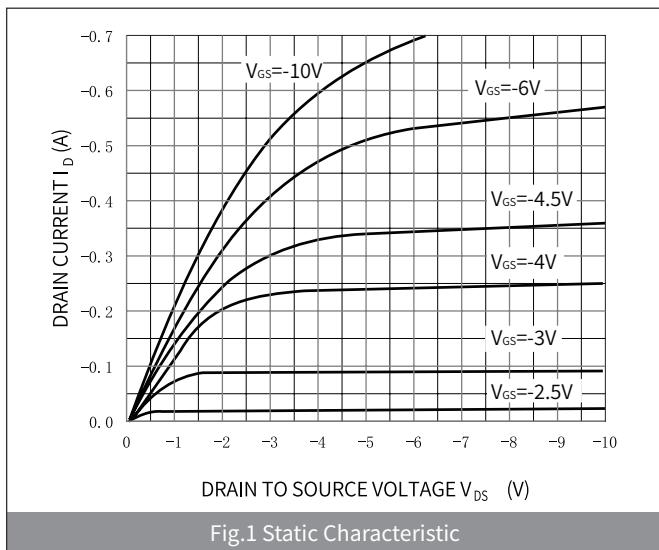
● Dynamic Parameters (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Input Capacitance	C_{iss}	V_{DS}=-30V V_{GS}=0V f=1MHZ	pF	—	43	—
Output Capacitance	C_{oss}			—	2.9	—
Reverse Transfer Capacitance	C_{rss}			—	2.8	—
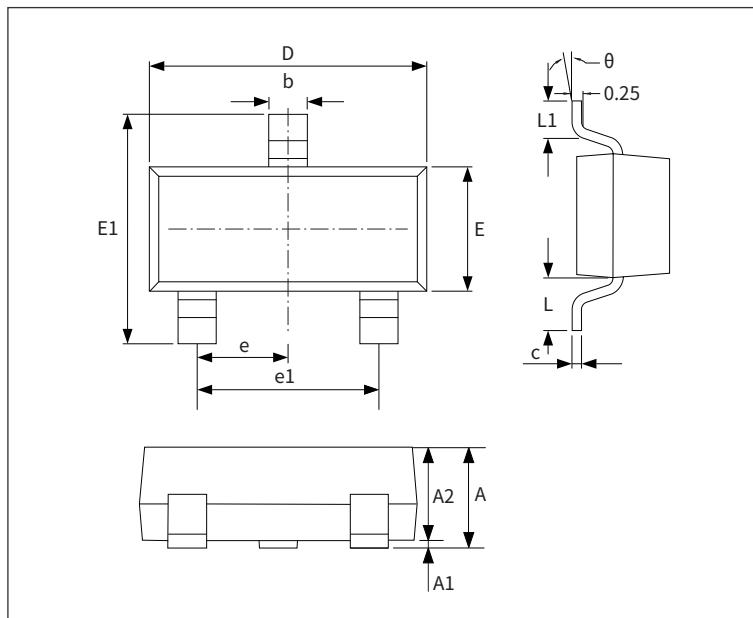
● Switching Parameters (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	Condition	UNIT	Min	Typ	Max
Total Gate Charge	Q_g	V_{GS}=-10V V_{DS}=-30V I_D=-0.15A	nC	—	1.77	—
Gate-Source Charge	Q_{gs}			—	0.57	—
Gate-Drain Charge	Q_{gd}			—	0.18	—
Turn-on Delay Time	$t_{D(on)}$	V_{DD}=-30V, V_{GS}=-10V, I_D=-0.15A, R_{GEN}=2.5Ω	nS	—	8.6	—
Turn-on Rise Time	t_r			—	20	—
Turn-off Delay Time	$t_{D(off)}$			—	15	—
Turn-off fall Time	t_f			—	77	16

BSS84

P-CHANNEL MOSFET

• Ratings And Characteristics Curves (Ta=25℃ Unless otherwise specified)

Fig.1 Static Characteristic

Fig.2 Transfer Characteristics

Fig.3 Drain-Source on Resistance

Fig.4 Drain-Source on Resistance

Fig.5 Diode Forward Voltage vs. current

Fig.6 Gate Threshold vs. Junction Temperature

BSS84

P-CHANNEL MOSFET
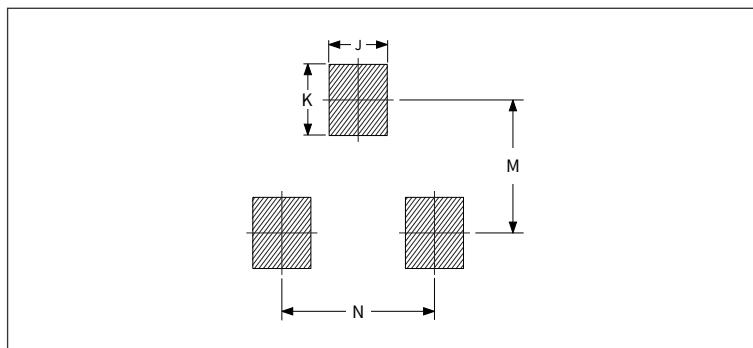
● **Package Outline Dimensions** (SOT-23)

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.90	1.15	0.035	0.045
A1	-	0.10	-	0.004
A2	0.90	1.05	0.035	0.041
b	0.30	0.50	0.012	0.020
c	0.10	0.20	0.004	0.008
D	2.80	3.00	0.110	0.118
E	1.20	1.40	0.047	0.055
E1	2.25	2.55	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.80	2.00	0.071	0.079
L	0.550REF		0.022REF	
L1	0.30	0.50	0.012	0.020
θ	-	8°	-	8°

● **Suggested Pad Layout**

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	0.75	0.85	0.030	0.033
K	0.85	0.95	0.033	0.037
M	1.95	2.05	0.077	0.081
N	1.85	1.95	0.073	0.077