

Description

These miniature surface mount MOSFETs reduce power loss conserve energy, making this device ideal for use in small power management circuitry.

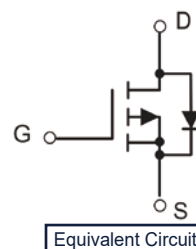
General Features

- Energy Efficient
- Low Threshold Voltage
- High-speed Switching
- Miniature Surface Mount Package Saves Board Space



Applications

- DC-DC converters,load switching,power management in portable andbattery-powered products suchas computers, printers, cellular and cordless telephones.



Ordering information

Product ID	Pack	Naming rule	Marking	Qty(PCS)
BSS84	SOT23	BSS84 ↓ 产品名称 product name	PD	3000

Absolute Maximum Ratings (TA=25℃ unless otherwise noted)

Symbol	Parameter	Rating	Units
V _{DSS}	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 (note 1) @tp <10 μs	-0.52	A
P _D	Power Dissipation	225	mW
R _{θJA}	Thermal Resistance from Junction to Ambient (note 2)	556	°C/W
T _{J,TSTG}	Operation Junction and Storage Temperature Range	-55~+150	°C
T _L	Maximum Lead Temperature for Soldering Purposes , Duration for 5 Seconds	260	°C

Electrical Characteristics (T_A=25℃, unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
STATIC CHARACTERISTICS						
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V , I _D =-250μA	-50	---	---	V
I _{DSS}	Drain-Source Leakage Current	V _{DS} =-50V,V _{GS} =0V	---	---	-15	μA
		V _{DS} =-25V,V _{GS} =0V	---	---	-0.1	μA
I _{GSS}	Gate-Source Leakage Current	V _{DS} =0V, V _{GS} = ±20V	---	---	±5	μA
V _{GS(th)}	Gate threshold voltage (note 3)	V _{GS} =V _{DS} , I _D =-250μA	-0.9	-1.6	-2	V
R _{DS(ON)}	Drain-source on-resistance (note 3)	V _{GS} =-5V, I _D =-0.1A	---	5.8	10	Ω
		V _{GS} =-10V,I _D =-0.1A	---	2	8	
g _{FS}	Forward transconductance (note 1)	V _{DS} =-25V; I _D =-100mA	50	---	---	mS
DYNAMIC CHARACTERISTICS (note 4)						
C _{iss}	Input Capacitance	V _{DS} =-5V , V _{GS} =0V , f=1MHz	---	30	---	pF
C _{Oss}	Output Capacitance		---	10	---	
C _{Rss}	Reverse Transfer Capacitance		---	5	---	
SWITCHING CHARACTERISTICS (note 4)						
T _{d(on)}	Turn-On Delay Time	V _{DD} =-15V, R _L =50Ω, I _D =-2.5A	---	2.5	---	ns
T _r	Rise Time		---	1	---	
T _{d(off)}	Turn-Off Delay Time		---	16	---	
T _f	Fall Time		---	8	---	
SOURCE-DRAIN DIODE CHARACTERISTICS						
I _S	Continuous Current		---	---	-0.13	A
I _{SM}	Pulsed Current		---	---	-0.52	A
V _{SD}	Diode forward voltage (note 3)	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 producing.



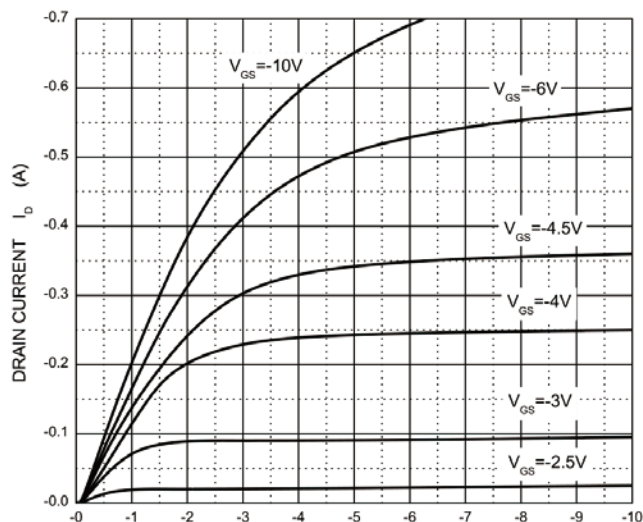
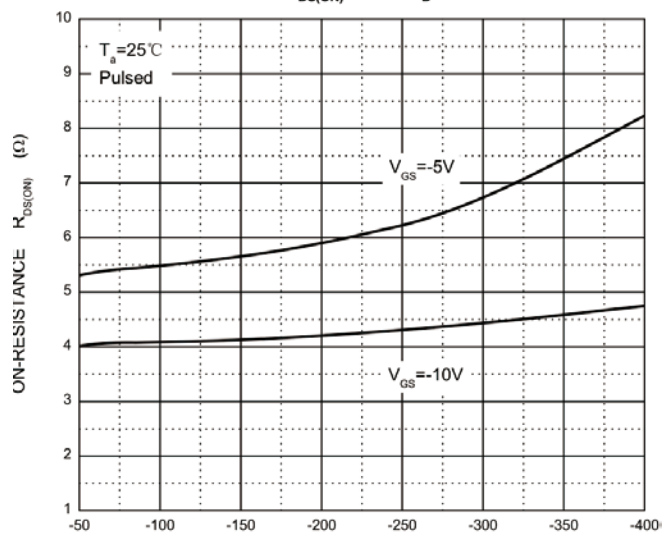
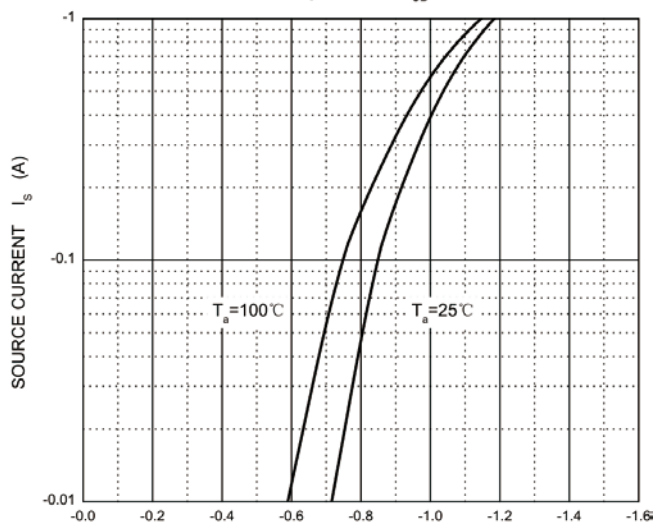
TWTLSEMI

TL-BSS84

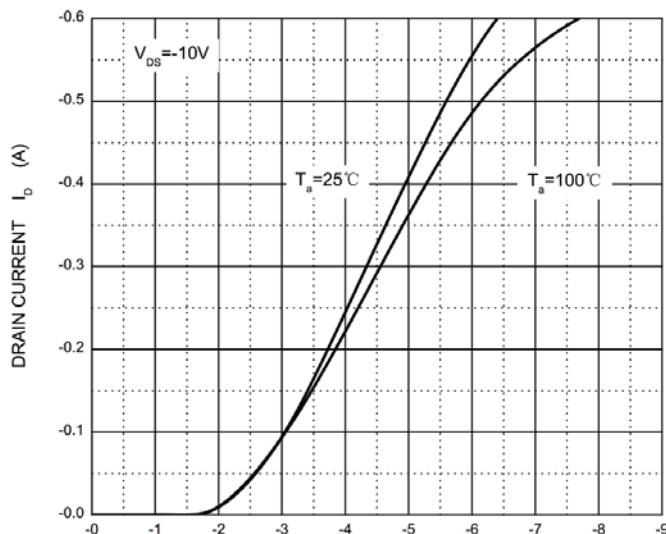
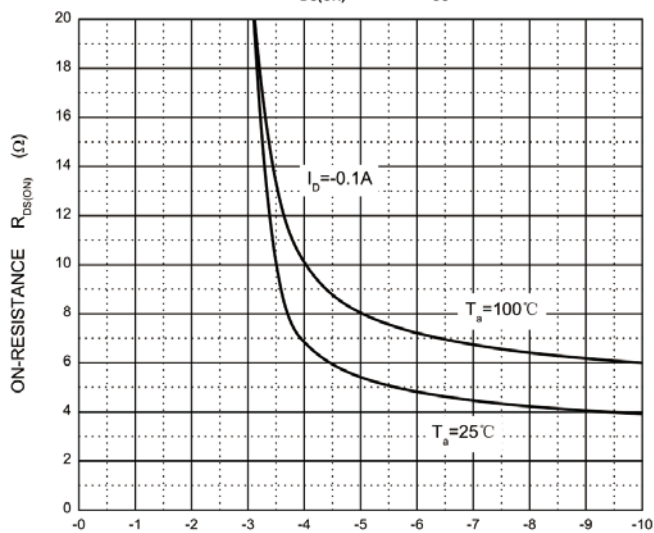
SOT23 -50V P-Channel Enhancement Mode MOSFET

Typical Characteristics

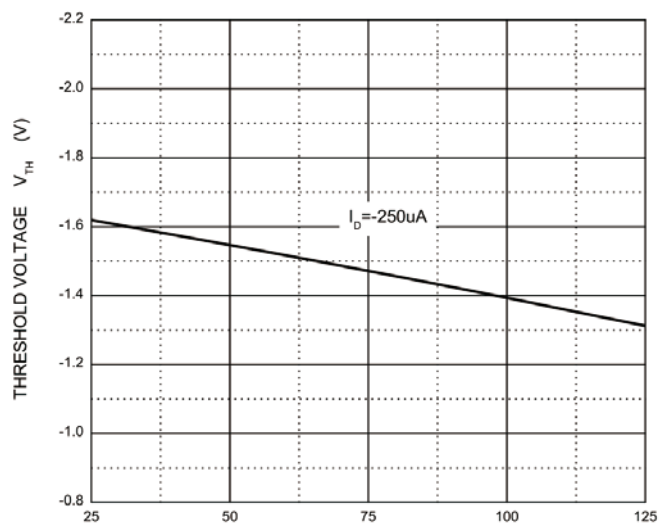
Output Characteristics

DRAIN TO SOURCE VOLTAGE V_{DS} (V) $R_{DS(ON)}$ — I_D DRAIN CURRENT I_D (mA) I_S — V_{SD} SOURCE TO DRAIN VOLTAGE V_{SD} (V)

Transfer Characteristics

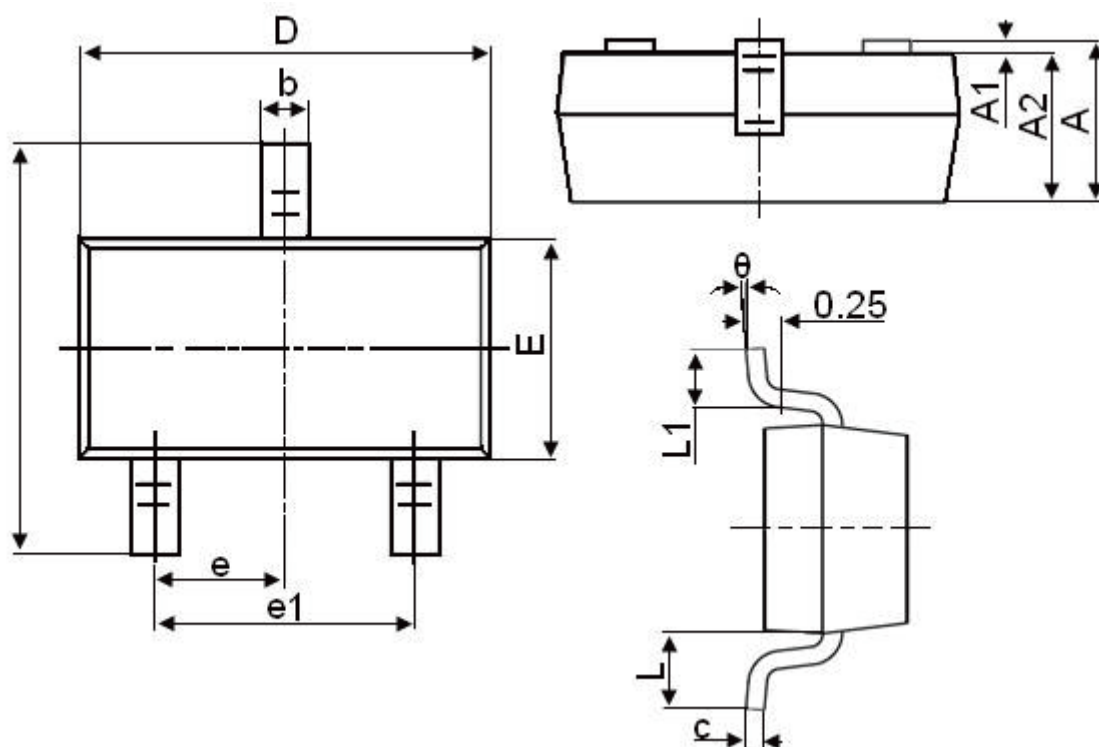
GATE TO SOURCE VOLTAGE V_{GS} (V) $R_{DS(ON)}$ — V_{GS} GATE TO SOURCE VOLTAGE V_{GS} (V)

Threshold Voltage

JUNCTION TEMPERATURE T_J ($^\circ C$)



SOT23 Package Outline Dimensions



Symbol	Dimensions in Millimeters	
	mm	
	Min	Max
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°