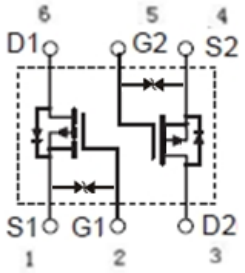
BSS84EV

P-Channel Enhancement Mode MOSFET

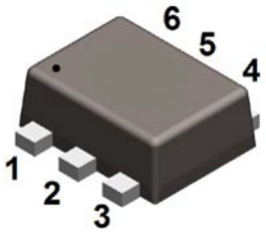
Features

- Low on-resistance
- High-speed switching
- Drive circuits can be simple
- Parallel use is easy
- ESD protected gate up to 1kV HBM



Typical Applications

- P-channel enhancement mode effect transistor
- Switching application



SOT-563

Mechanical Data

- Case: SOT-563
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin-Plated Leads, Solderability-per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
BSS84EV	SOT-563	3000pcs / Tape & Reel	ES

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	-50	V
Gate -Source Voltage	V_{GSS}	±20	V
Continuous Drain Current	I_D	-130	mA
Pulsed Drain Current *4	I_{DM}	-520	mA
Power Dissipation *1	P_D	0.25	W

Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal Resistance Junction-to-Air *1	$R_{\theta JA}$	500	°C/W
Thermal Resistance Junction-to-Case *1	$R_{\theta JC}$	342	°C/W
Thermal Resistance Junction-to-Lead *1	$R_{\theta JL}$	280	°C/W
Operating Junction Temperature Range	T_J	-55 ~ +150	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

Electrical Characteristics (@ T_A = 25°C unless otherwise specified)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
V_{DSS}	Drain-Source Breakdown Voltage	V_{GS} = 0V, I_D = -250μA	-50	-	-	V
I_{DSS}	Drain to Source Leakage Current	V_{DS} = -50V, V_{GS} = 0V	-	-	-1	μA
I_{GSS}	Gate-body Leakage	V_{GS} = ±20V, V_{DS} = 0V	-	-	±10	μA
On Characteristics *2						
$R_{DS(ON)}$	Static Drain-Source On-resistance	V_{GS} = -5V, I_D = -0.1A	-	4	8	Ω
		V_{GS} = -10V, I_D = -0.13A	-	3.5	6	Ω
$V_{GS(TH)}$	Gate Threshold Voltage	V_{DS} = V_{GS}, I_D = -250μA	-1	-1.7	-3	V
Dynamic Characteristics *3						
C_{ISS}	Input Capacitance	V_{GS} = 0V V_{DS} = -20V f = 1.0MHz	-	32	-	pF
C_{OSS}	Output Capacitance		-	16	-	
C_{RSS}	Reverse Transfer Capacitance		-	4	-	
R_G	Gate Resistance	V_{GS} = 0V, V_{DS} = -15mV f = 1.0MHz	-	945	-	Ω
Source-Drain Diode Characteristics						
V_{SD}	Diode Forward Voltage *2	I_S = 0.26A, V_{GS} = 0V	-	-0.8	-1.4	V
I_S	Diode Continuous Forward Current	T_C=25°C	-	-	-0.3	A

Notes:

1、 Surface mounted on FR4 board, t ≤ 10 sec

2、 Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%

3、 Guaranteed by design, not subject to production

4、 Pulse width limited by maximum junction temperature

Ratings and Characteristics Curves (@ T_A = 25°C unless otherwise specified)

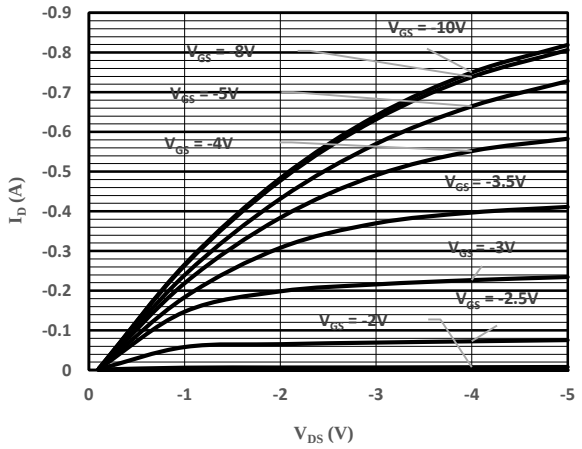


Fig 1 On-Region Characteristics

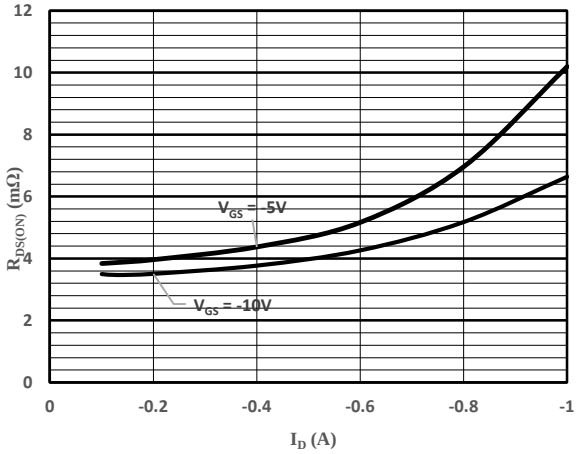


Fig 2 On-Resistance vs. Drain Current and Gate Voltage

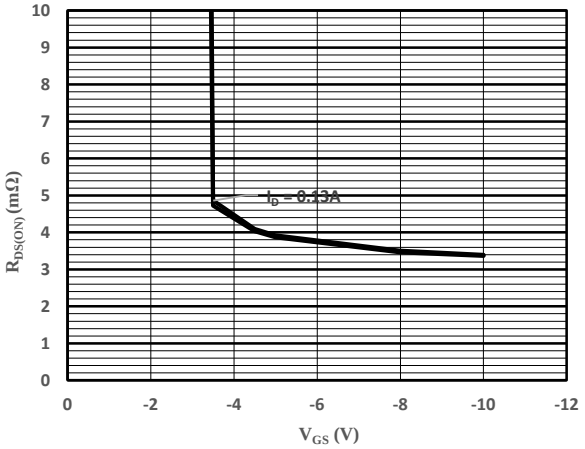


Fig 3 On-Resistance vs. Gate-Source Voltage

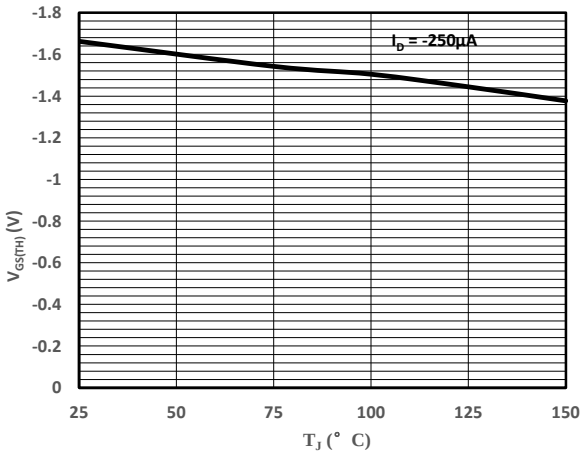


Fig 4 Gate Voltage vs. Junction Temperature

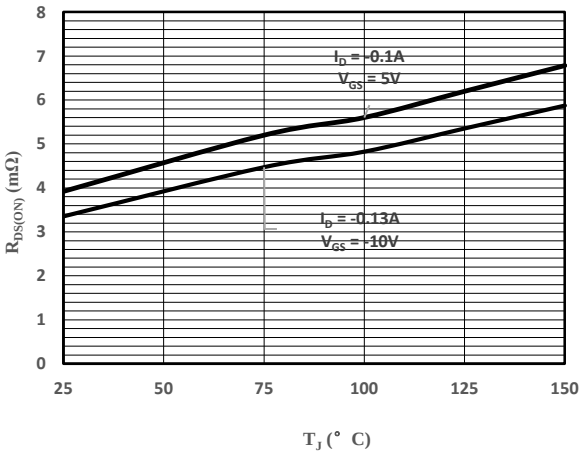


Fig 5 On-Resistance vs. Junction Temperature

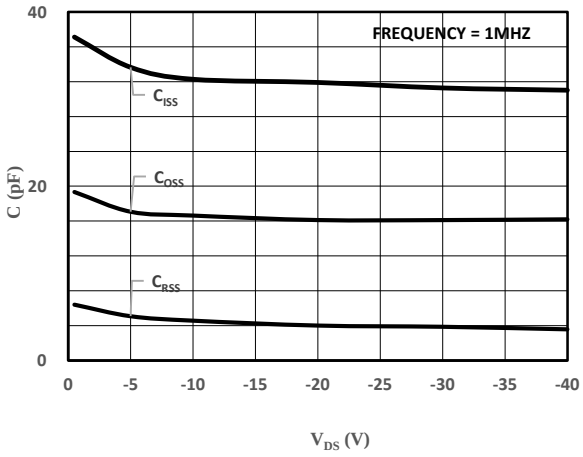


Fig 6 Capacitance Characteristics

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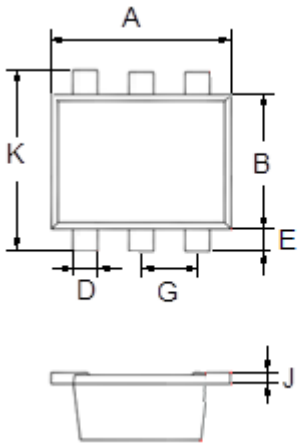
Package Outline Dimensions (Unit: mm)



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Dimension	**Min.**	**Max.**
A	1.500	1.700
B	1.100	1.300
C	0.525	0.600
D	0.170	0.270
E	0.100	0.300
G	0.450	0.550
H	0.000	0.050
J	0.090	0.160
K	1.500	1.700

Mounting Pad Layout (Unit: mm)

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