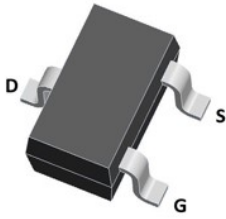
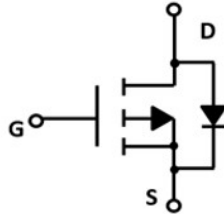
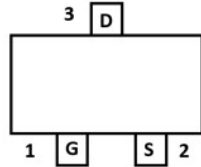


P-Channel Enhancement Mode Field Effect Transistor



SOT-323



Product Summary

- V_{DS} -60 V
- I_D -0.17 A
- $R_{DS(ON)}$ (at $V_{GS}=-10V$) < 8 ohm
- $R_{DS(ON)}$ (at $V_{GS}=-4.5V$) < 9.9 ohm

General Description

- Trench Power LV MOSFET technology
- Low $R_{DS(ON)}$
- Low Gate Charge

Applications

- Video monitor
- Power management

■ Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Maximum	Unit
Drain-source Voltage	V_{DS}	-60	V
Gate-source Voltage	V_{GS}	± 20	V
Drain Current	I_D	$T_A=25^\circ\text{C}$ @ Steady State	-0.17
		$T_A=70^\circ\text{C}$ @ Steady State	-0.14
Pulsed Drain Current ^A	I_{DM}	0.68	A
Total Power Dissipation @ $T_A=25^\circ\text{C}$	P_D	0.15	W
Thermal Resistance Junction-to-Ambient ^B	$R_{\theta JA}$	833	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature Range	T_J, T_{STG}	-55~+150	$^\circ\text{C}$

■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	Marking	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BSS84W	F2	B84.	3000	30000	120000	7" reel



BSS84W

■ Electrical Characteristics (T_J=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameter						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} = 0V, I _D =-250μA	-60			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-60V, V _{GS} =0V			-1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} = ±20V, V _{DS} =0V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D =-250μA	-0.9	-1.4	-2.0	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} = -10V, I _D =-0.15A		3.3	8	Ω
		V _{GS} = -4.5V, I _D =-0.15A		3.5	9.9	
Diode Forward Voltage	V _{SD}	I _S =-0.17A, V _{GS} =0V			-1.2	V
Maximum Body-Diode Continuous Current	I _S				-0.17	A
Dynamic Parameters						
Input Capacitance	C _{iss}	V _{DS} =-30V, V _{GS} =0V, f=1MHZ		43		pF
Output Capacitance	C _{oss}			2.9		
Reverse Transfer Capacitance	C _{rss}			1.8		
Switching Parameters						
Total Gate Charge	Q _g	V _{GS} =-10V, V _{DS} =-30V, I _D =-0.15 A		1.77		nC
Gate Source Charge	Q _{gs}			0.57		
Gate Drain Charge	Q _{gd}			0.18		
Reverse Recovery Charge	Q _{rr}	I _F =-0.15A, di/dt=100A/μs		13		
Reverse Recovery Time	t _{rr}			23		
Turn-on Delay Time	t _{D(on)}	V _{GS} =-4.5V, V _{DD} =-30V, I _D =-0.15A, R _{GEN} =2.5Ω		8.6		ns
Turn-on Rise Time	t _r			20		
Turn-off Delay Time	t _{D(off)}			15		
Turn-off Fall Time	t _f			77		

A. Pulse Test: Pulse Width ≤ 10μs, Duty cycle ≤ 2%.

B. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch.



■ Typical Performance Characteristics

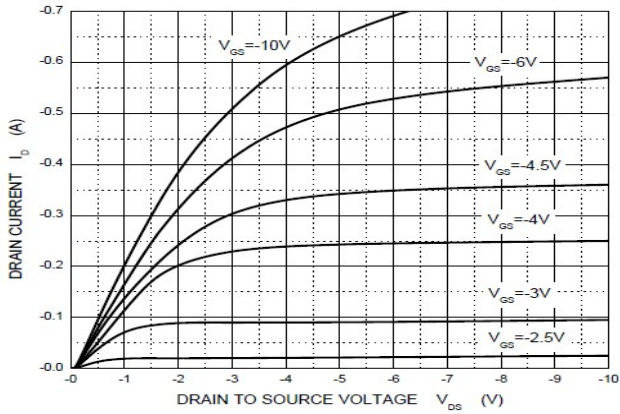


Figure1. Output Characteristics

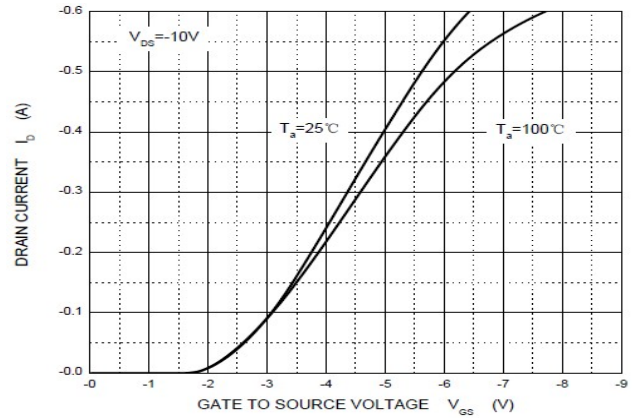


Figure2. Transfer Characteristics

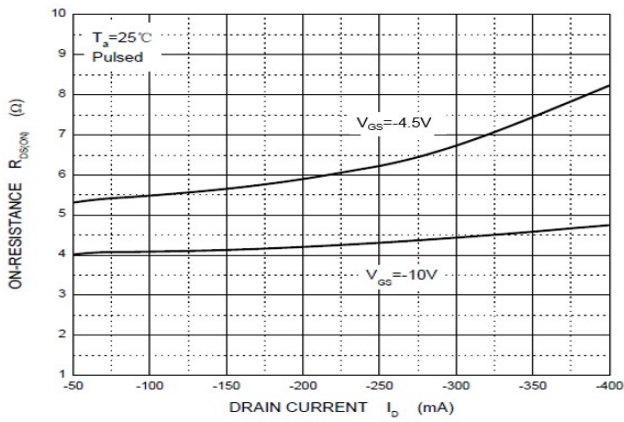


Figure3. Drain-Source on Resistance

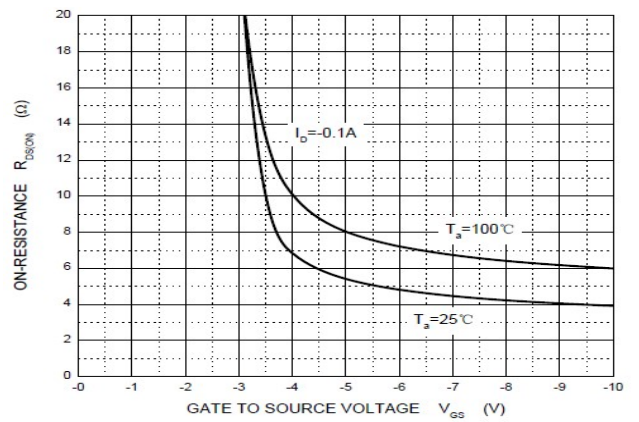


Figure4. Drain-Source on Resistance

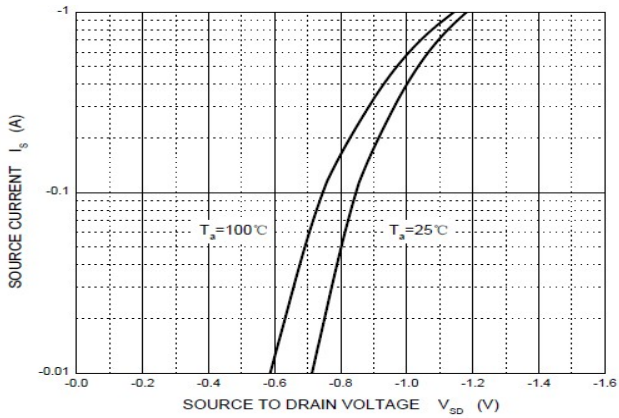


Figure5. Diode Forward Voltage vs. current

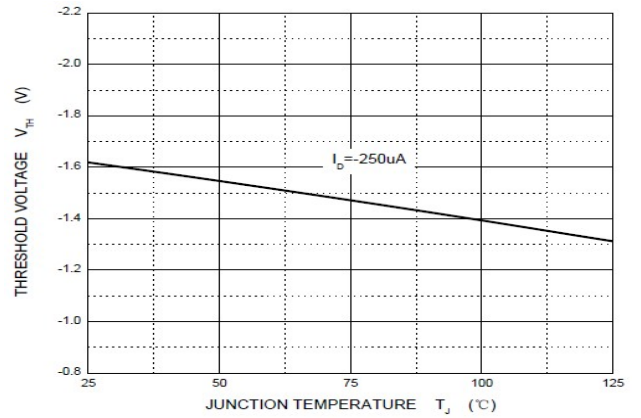
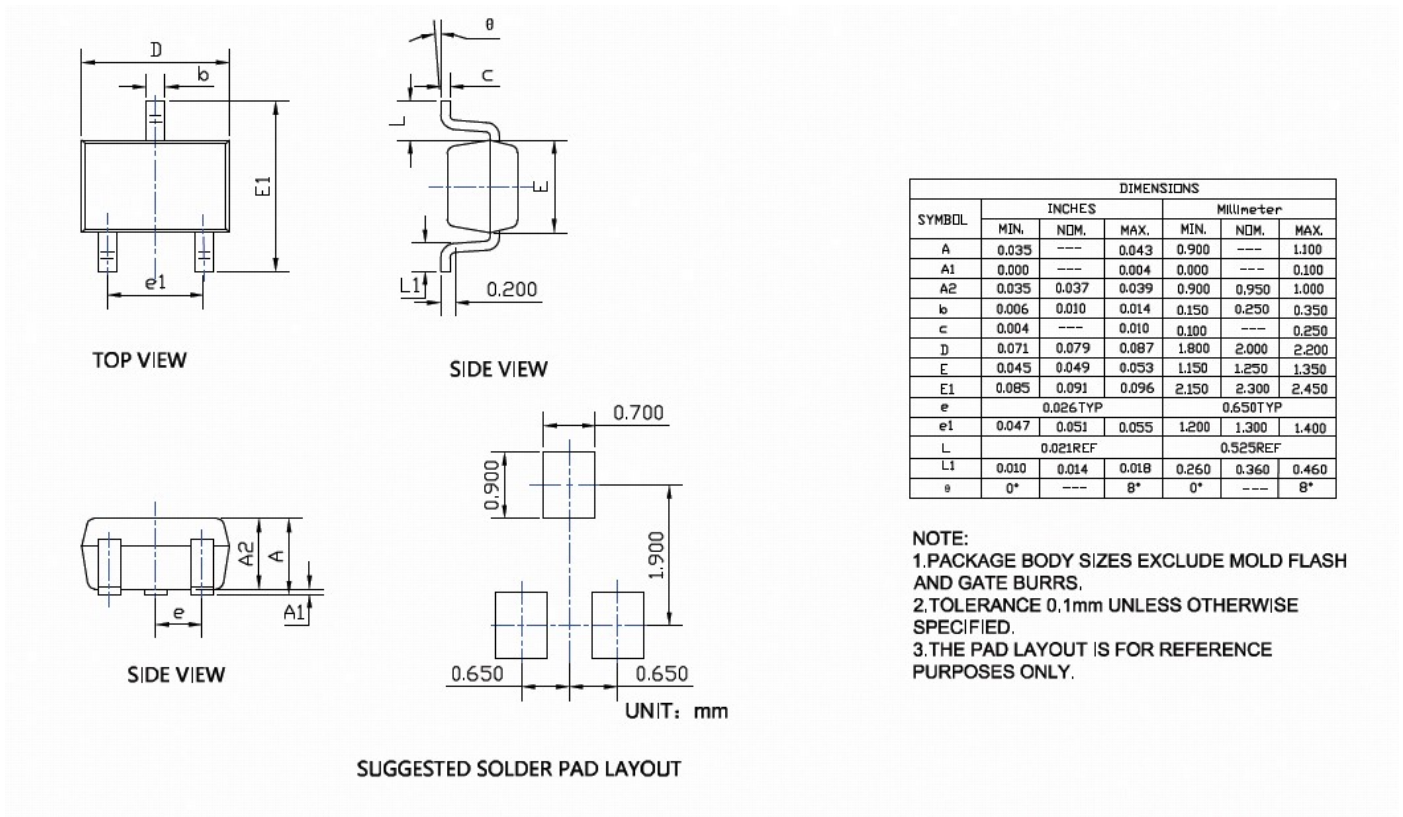


Figure6. Gate Threshold vs. Junction Temperature

■ SOT-323 Package information





BSS84W

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