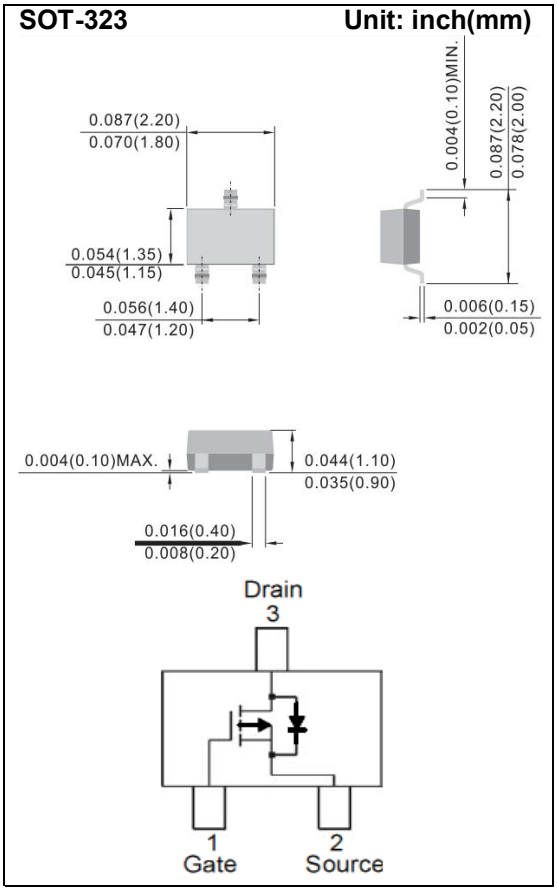
BSS84W

P-Channel Enhancement Mode MOSFET

Voltage	-50 V	Current	130mA



Features

- Low On-Resistance
- Low Gate Threshold Voltage
- Fast Switching
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. (Halogen Free)

Mechanical Data

- Case: SOT-323 Package
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.00018 ounces, 0.005 grams
- Marking: 84W

Applications

- Switching Power supplies
- Hand-Held Computers, PDAs

Maximum Ratings and Thermal Characteristics (T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
Drain-Source Voltage	V_{DSS}	-50	V
Drain-Gate Voltage (Note 1)	V_{DGR}	-50	V
Gate-Source Voltage	V_{GSS}	±20	V
Drain Current	I_D	130	mA
Power Dissipation (Note 2)	P_D	200	mW
Operating Junction and Storage Temperature Range	T_J,T_{STG}	-55 to +150	°C
Typical Thermal resistance - Junction to Ambient (Note 2)	$R_{\theta JA}$	625	°C/W

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Electrical Characteristics (T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Off Characteristics (Note 3)						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V,I_D=-250uA	-50	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-50V,V_{GS}=0V,T_J=25°C	-	-	-15	uA
		V_{DS}=-50V,V_{GS}=0V,T_J=125°C	-	-	-60	
		V_{DS}=-25V,V_{GS}=0V,T_J=25°C	-	-	-0.1	
Gate-Source Leakage Current	I_{GSS}	V_{GS}=±20V,V_{DS}=0V	-	-	±10	nA
On Characteristics (Note 3)						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=-1mA	-0.8	-1.44	-2	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=-5V,I_D=-0.1A	-	3.8	10	Ω
Forward Transconductance	g_{FS}	V_{DS}=-25V, I_D=-0.1A	0.05	-	-	S
Dynamic Characteristics						
Input Capacitance	Ciss	V_{DS}=-25V, V_{GS}=0V, f=1MHZ	-	-	45	pF
Output Capacitance	Coss		-	-	25	
Reverse Transfer Capacitance	Crss		-	-	12	
Switching Characteristics						
Turn-On Delay Time	$td_{(on)}$	V_{DD}=-30V, I_D=-0.27A,	-	7.5	-	ns
Turn-Off Delay Time	$td_{(off)}$	V_{GS}=-10V, R_{GEN}=50Ω	-	25	-	ns

NOTES :

1. R_{GS} <20K Ω
2. FR-5 board 1 x 0.75 x 0.062 inch with minimum recommended pad layout.
3. Short duration test pulse used to minimize self-heating.

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ELECTRICAL CHARACTERISTIC CURVES

T_J = 25°C Unless otherwise noted

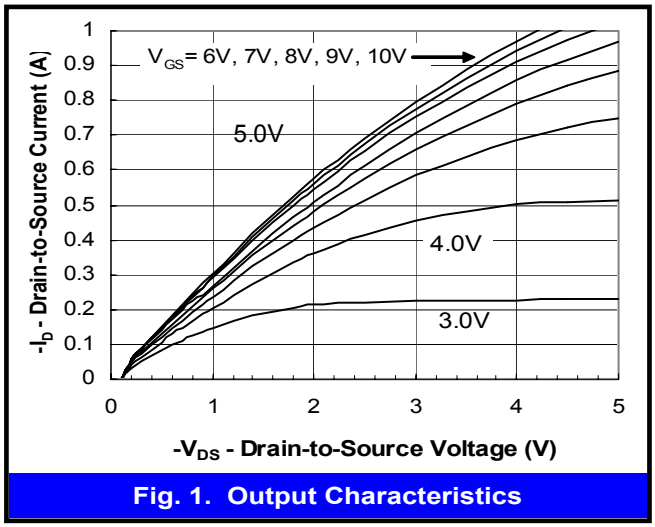

Fig. 1. Output Characteristics

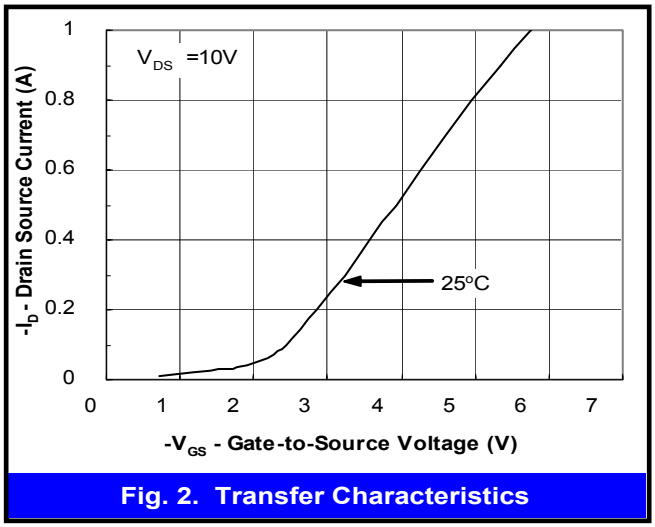

Fig. 2. Transfer Characteristics

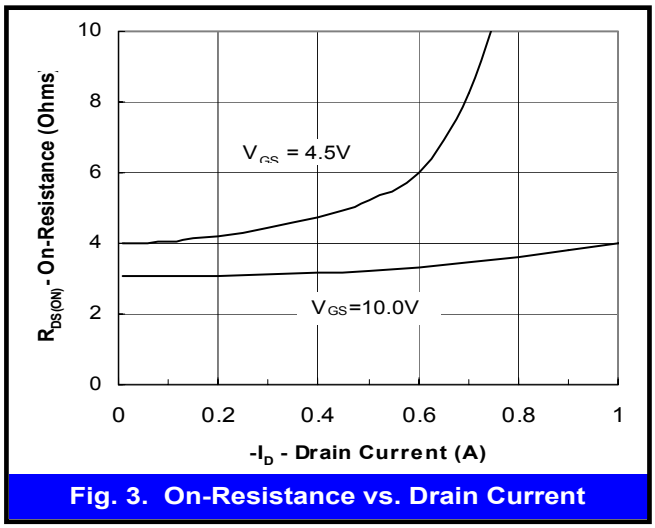

Fig. 3. On-Resistance vs. Drain Current

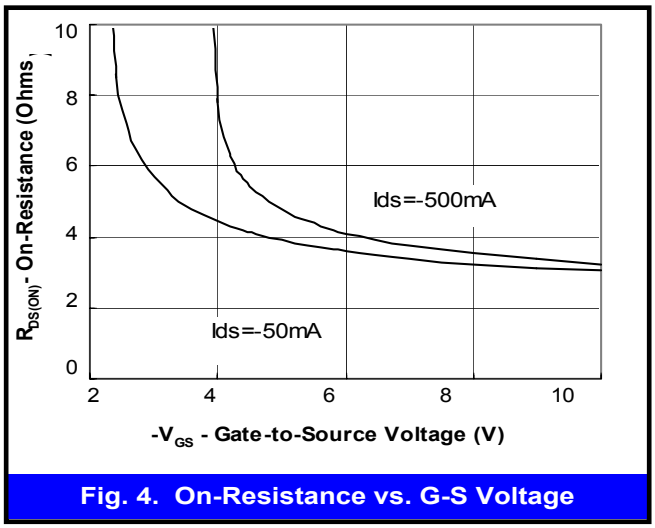

Fig. 4. On-Resistance vs. G-S Voltage

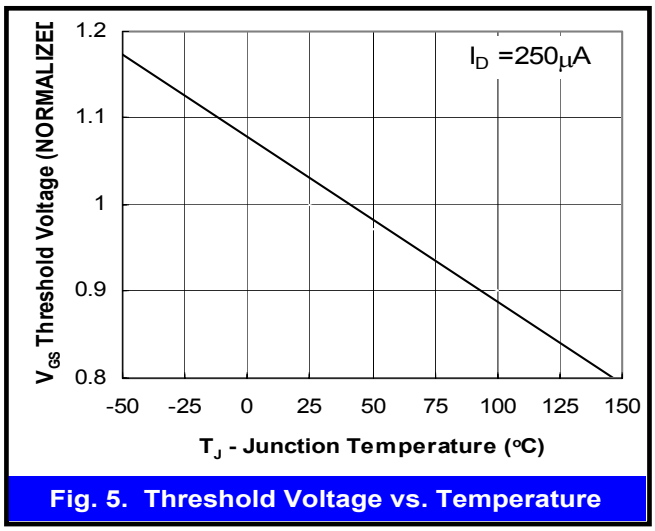

Fig. 5. Threshold Voltage vs. Temperature

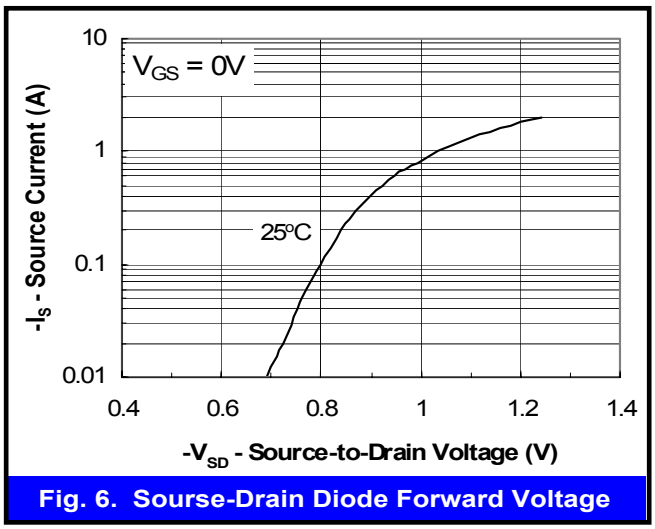

Fig. 6. Sourse-Drain Diode Forward Voltage

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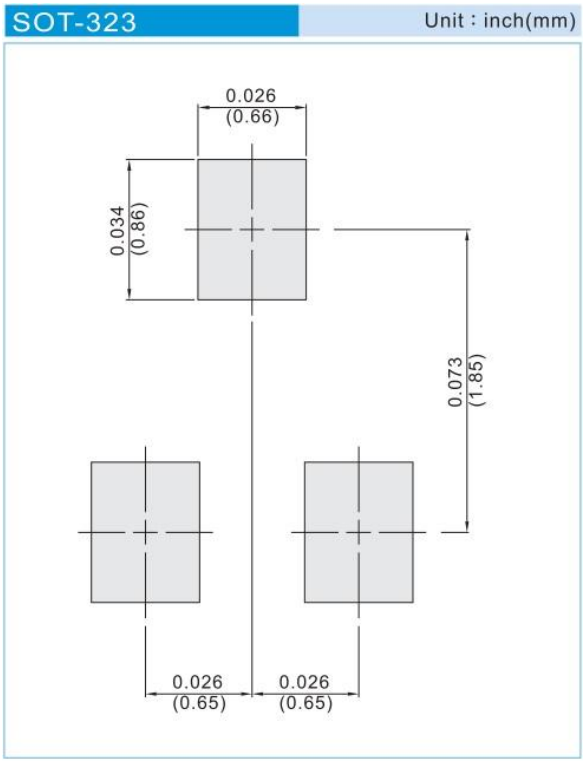
PART NO PACKING CODE VERSION

Part No Packing Code	Package Type	Packing type	Marking	Version
BSS84W_R1_00001	SOT-323	3K pcs / 7” reel	84W	Halogen free
BSS84W_R2_00001	SOT-323	12K pcs / 13” reel	84W	Halogen free

MOUNTING PAD LAYOUT



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