

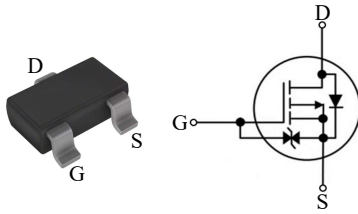


BSS84KWH

P-Channel Enhancement Mode Field Effect Transistor

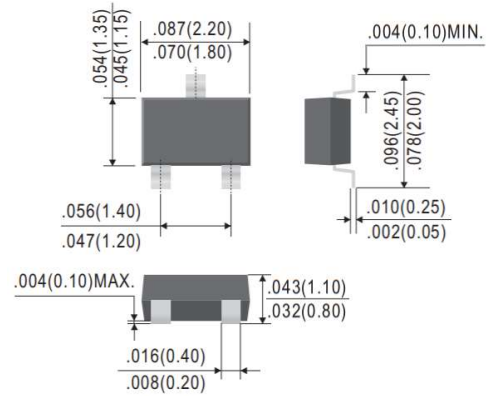
FEATURES

- ESD protected
- Suffix "H" indicates Halogen-free parts, ex. BSS84KWH



D	Drain
G	Gate
S	Source

SOT-323



Dimensions in inch and (millimeter)

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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	-50	V
Gate-Source Voltage	V_{GSS}	± 20	V
Drain Current	I_D	-0.13	A
Pulsed Drain Current (Note 1)	I_{DM}	-0.52	A
Power Dissipation (Note 2)	P_D	200	mW
Thermal Resistance Junction to Ambient (Note 2)	$R_{\theta JA}$	625	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T_J, T_{stg}	- 55 to + 150	$^\circ\text{C}$

Note :

1. Pulse width $\leq 100\mu\text{s}$, Duty Cycle $\leq 2\%$, Repetitive rating, pulse width limited by junction temperature $T_{J(MAX)} = 150^\circ\text{C}$
2. Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.



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Electrical Characteristics ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise specified)

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Unit
Static						
Drain Source Breakdown Voltage	$I_D = -250\mu\text{A}$	V_{DSS}	-50	-	-	V
Gate Threshold Voltage	$V_{DS} = V_{GS}, I_D = -250\mu\text{A}$	$V_{GS(th)}$	-0.9	-	-2.0	V
Zero Gate Voltage Drain Current	$V_{DS} = -25\text{V}$	I_{DSS}	-	-	-0.1	μA
	$V_{DS} = -50\text{V}$		-	-	-15.0	
Gate-Body Leakage Current	$V_{GS} = \pm 20\text{V}$	I_{GSS}	-	-	± 10	μA
Drain-Source On-State Resistance	$V_{GS} = -5\text{V}, I_D = -0.1\text{A}$	$R_{DS(on)}$	-	-	10	Ω
Dynamic						
Forward Transconductance	$V_{DS} = -25\text{V}, I_D = -0.1\text{A}$	g_{FS}	50	-	-	mS
Total Gate Charge	$V_{DS} = -25\text{V}, V_{GS} = -2.5\text{V}, I_D = -0.1\text{A}$	Q_g	-	0.7	-	nC
			-	1.1	-	
Gate-Source Charge	$V_{DS} = -25\text{V}, V_{GS} = -4.5\text{V}, I_D = -0.1\text{A}$	Q_{gs}	-	0.3	-	nC
Gate-Drain Charge		Q_{gd}	-	0.2	-	
Input Capacitance	$V_{GS} = 0\text{V}, V_{DS} = -25\text{V}, f = 1\text{MHz}$	C_{iss}	-	38	-	pF
Output Capacitance		C_{oss}	-	10	-	
Reverse Transfer Capacitance		C_{rss}	-	6	-	
Turn-On Delay Time		$t_{d(on)}$	-	14.0	-	
Turn-On Rise Time	$V_{DS} = -25\text{V}, I_D = -0.1\text{A},$ $V_{GS} = -10\text{V}, R_g = 6.8\Omega$	t_r	-	4.3	-	
Turn-Off Delay Time		$t_{d(off)}$	-	15.0	-	
Turn-Off Fall Time	t_f	-	76.0	-		
Drain-Source Body Diode						
Diode Forward Voltage	$V_{GS} = 0\text{V}, I_S = -0.5\text{A}$	V_{SD}	-	-	-1.3	V
Diode Continuous Forward Current	-	I_S	-	-	-0.13	A



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RATINGS AND CHARACTERISTIC CURVES

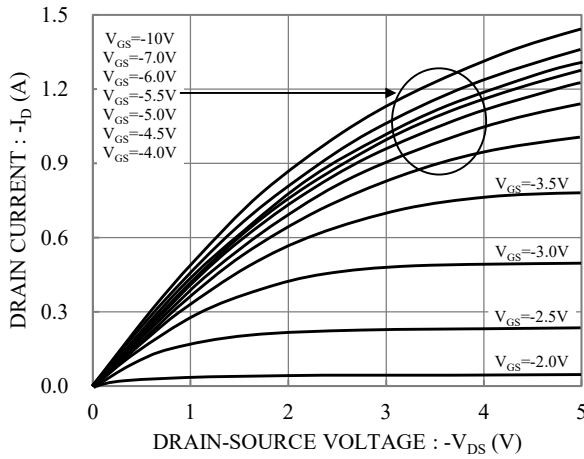


Fig.1 Typical Output Characteristics

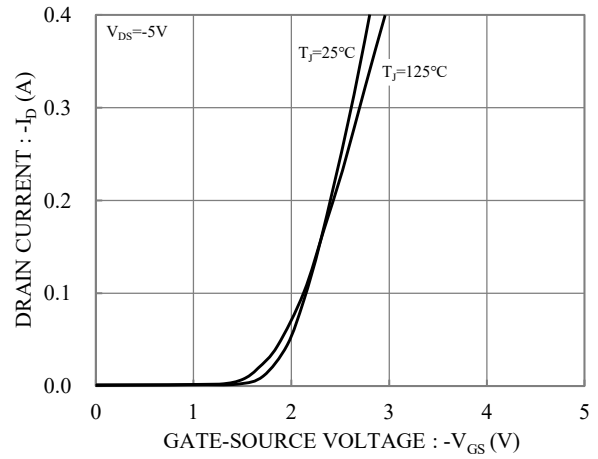


Fig.2 Typical Transfer Characteristics

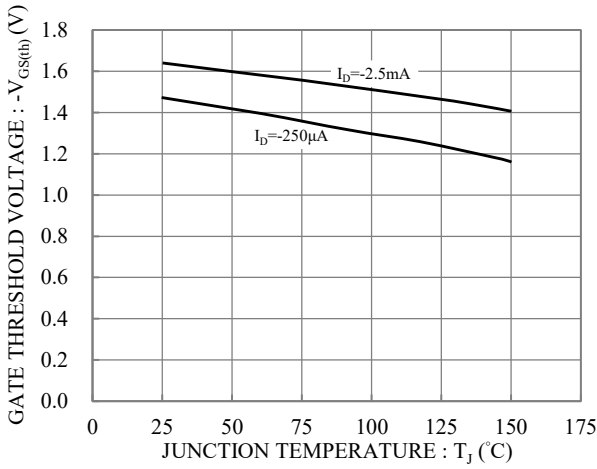


Fig.3 Gate Threshold Voltage vs. Junction Temperature

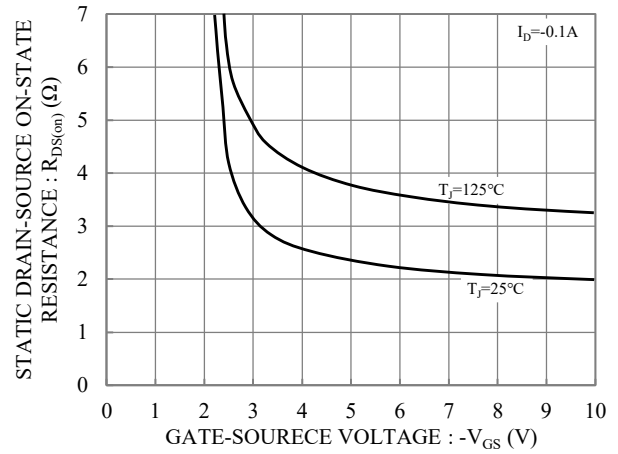


Fig.4 Static Drain-Source On-State Resistance vs. Gate-Source Voltage

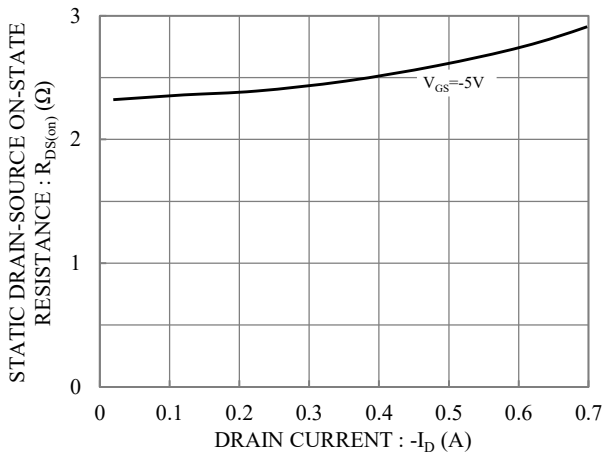


Fig.5 Static Drain-Source On-State Resistance vs. Drain Current

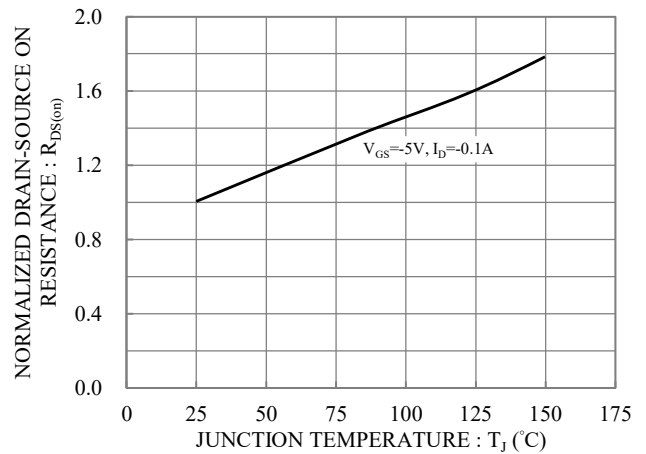


Fig.6 Drain-Source On-State Resistance vs. Junction Temperature



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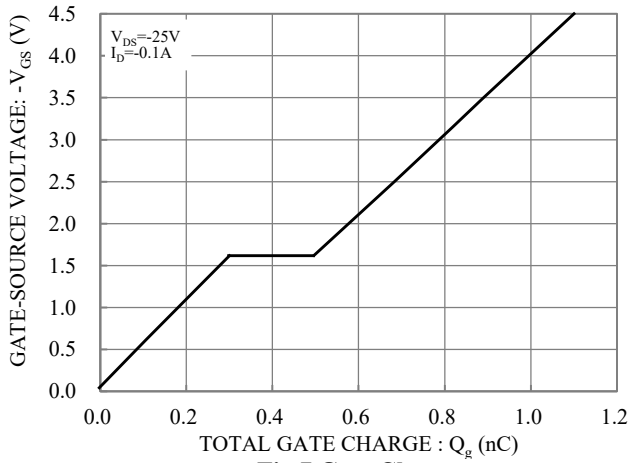


Fig.7 Gate Charge

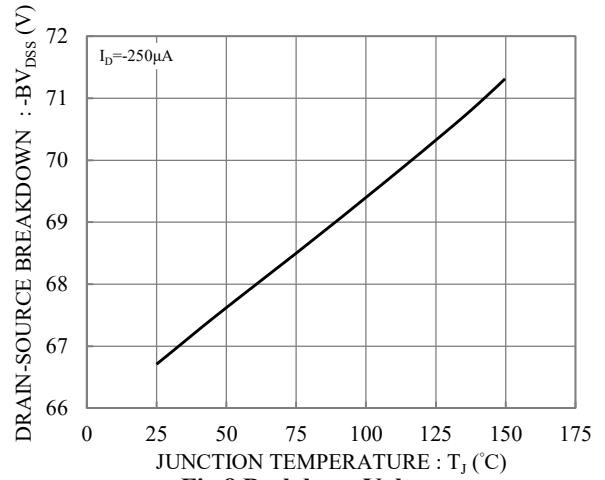


Fig.8 Brekdown Voltage vs. Junction Temperature

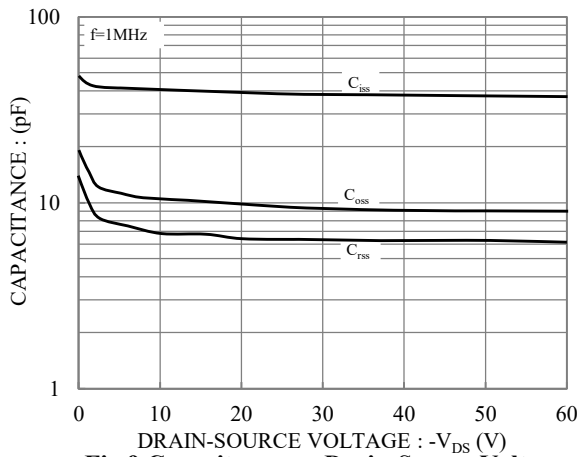


Fig.9 Capacitance vs. Drain-Source Voltage

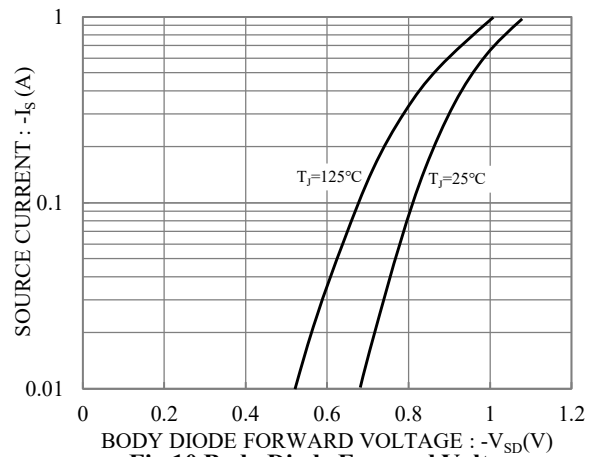


Fig.10 Body Diode Forward Voltage vs. Source Current

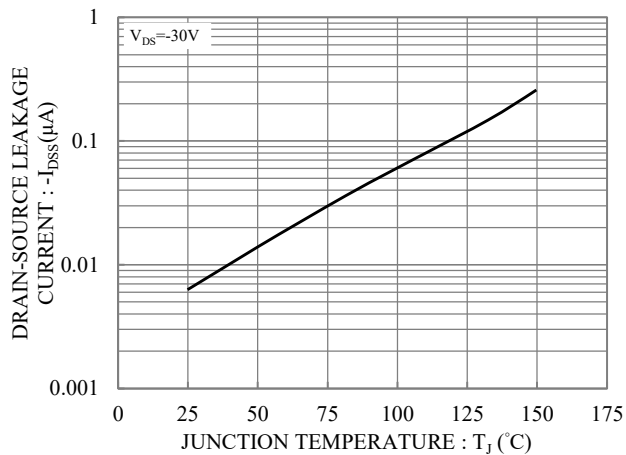


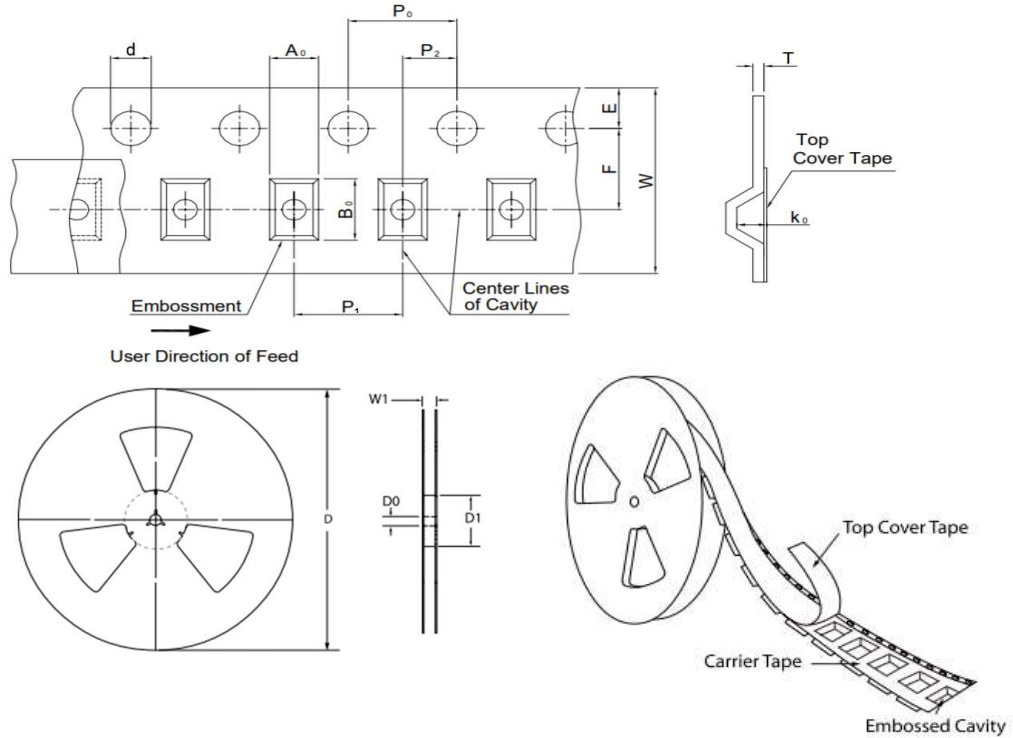
Fig.11 Drain-Source Leakage Current vs. Junction Temperature



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TAPE & REEL SPECIFICATION



Item	Symbol	SOT-323
Carrier width	A_0	2.30 ± 0.10
Carrier length	B_0	2.30 ± 0.10
Carrier depth	K_0	1.30 ± 0.10
Sprocket hole	d	1.50 ± 0.10
Reel outside diameter	D	178.00 ± 2.00
Feed hole width	D_0	13.00 ± 0.50
Reel inner diameter	D_1	MIN. 50.00
Sprocket hole position	E	1.75 ± 0.10
Punch hole position	F	3.50 ± 0.10
Sprocket hole pitch	P_0	4.00 ± 0.10
Punch hole pitch	P_1	4.00 ± 0.10
Embossment center	P_2	2.00 ± 0.10
Overall tape thickness	T	0.20 ± 0.05
Tape width	W	8.00 ± 0.20
Reel width	W_1	MAX. 14.50

ORDER INFORMATION

Package	Reel Size	Quantity
SOT-323	7"	3,000

MARKING CODE

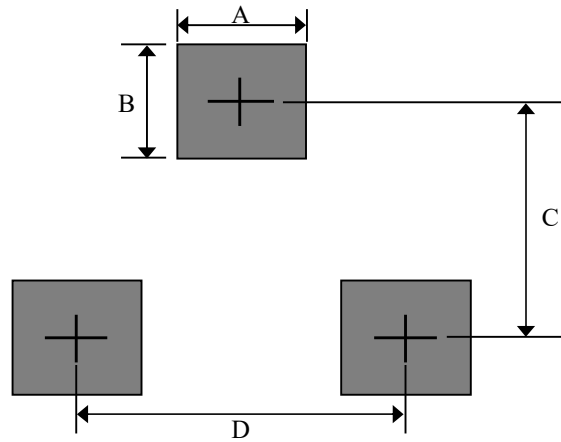
Part Number	Marking Code
BSS84KWH	LR



BSS84KWH

P-Channel Enhancement Mode Field Effect Transistor

SUGGESTED SOLDER PAD LAYOUT



Unit : mm

PACKAGE	A	B	C	D
SOT-323	0.80	0.80	1.60	1.30