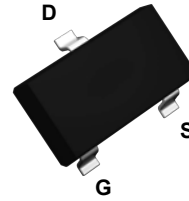
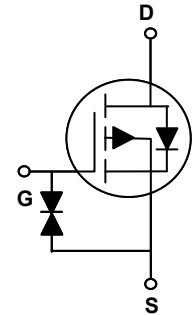


Main Product Characteristics

$V_{(BR)DSS}$	-60V
$R_{DS(ON)}$	4.7Ω (Max.)
I_D	-0.3A



SOT-323



Schematic Diagram

Features and Benefits

- Advanced MOSFET process technology
- Ideal for load switch, hand-held devices and LED applications
- Low on-resistance with low gate charge
- Fast switching and reverse body recovery
- ESD rating: HBM 2KV



Description

The BSS84AKW utilizes the latest techniques to achieve high cell density and low on-resistance. These features make this device extremely efficient and reliable for use in high efficiency switch mode power supply and a wide variety of other applications.

Absolute Maximum Ratings (T_C=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-60	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	-0.3	A
Pulsed Drain Current @ $t_p < 10\mu s^1$	I_{DM}	-0.6	A
Power Dissipation	P_D	270	mW
Thermal Resistance from Junction to Ambient ²	$R_{\theta JA}$	450	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C
Maximum Lead Temperature for Soldering Purposes, Duration for 5 Seconds	T_L	260	°C

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
On / Off Characteristics						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =-250μA	-60	-	-	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-60V, V _{GS} =0V	-	-	-1	μA
		V _{DS} =-48V, V _{GS} =0V	-	-	-0.5	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V	-	-	±10	μA
Gate Threshold Voltage ³	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-1.1	-	-2.1	V
Drain-Source On-Resistance ³	R _{DS(on)}	V _{GS} =-10V, I _D =-0.15A	-	3.6	4.7	Ω
		V _{GS} =-5V, I _D =-0.1A	-	4.4	5.7	Ω
Forward Transconductance ¹	g _{fs}	V _{DS} =-25V, I _D =-100mA	50	-	-	mS
Dynamic and Switching Characteristics						
Input Capacitance	C _{iss}	V _{DS} =5V, V _{GS} =0V, f=1MHz	-	30	-	pF
Output Capacitance	C _{oss}		-	10	-	
Reverse Transfer Capacitance	C _{rss}		-	5	-	
Turn-On Delay Time	t _{d(on)}	V _{DD} =-15V, R _L =50Ω, I _D =-2.5A	-	2.5	-	nS
Turn-On Rise Time	t _r		-	1	-	
Turn-Off Delay Time	t _{d(off)}		-	16	-	
Turn-Off Fall Time	t _f		-	8	-	
Drain-Source Ratings and Characteristics						
Continuous Current	I _S	-	-	-	-0.3	A
Pulsed Current	I _{SM}		-	-	-0.6	A
Diode Forward Voltage ³	V _{SD}	I _S =-0.1A, V _{GS} =0V	-	-	-1.2	V

Note:

1. Repetitive rating: Pulsed width limited by junction temperature.
2. Surface mounted on FR4 board, $t \leq 10s$.
3. Pulse test: Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.

Typical Electrical and Thermal Characteristic Curves

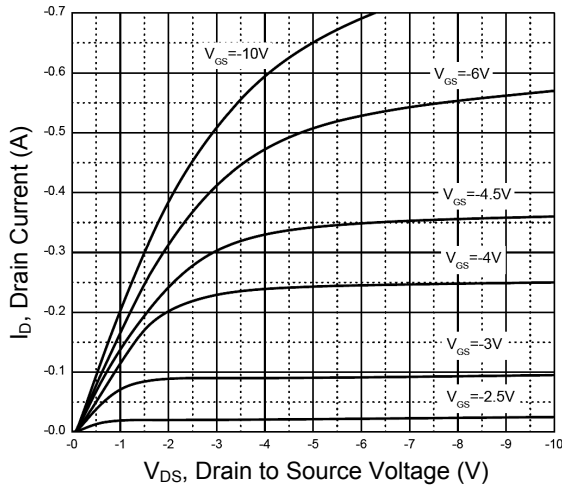


Figure 1. Output Characteristics

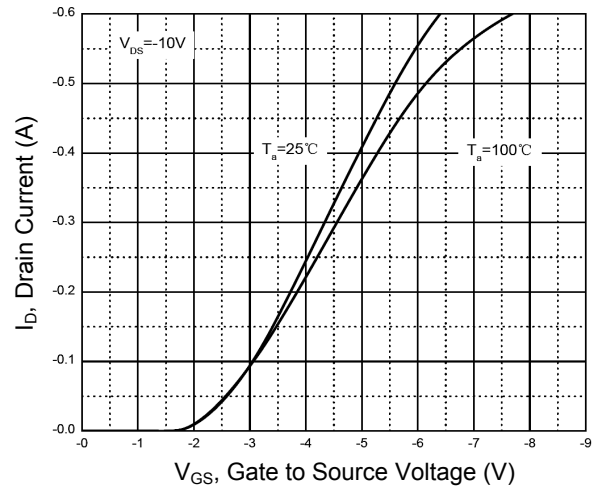


Figure 2. Transfer Characteristics

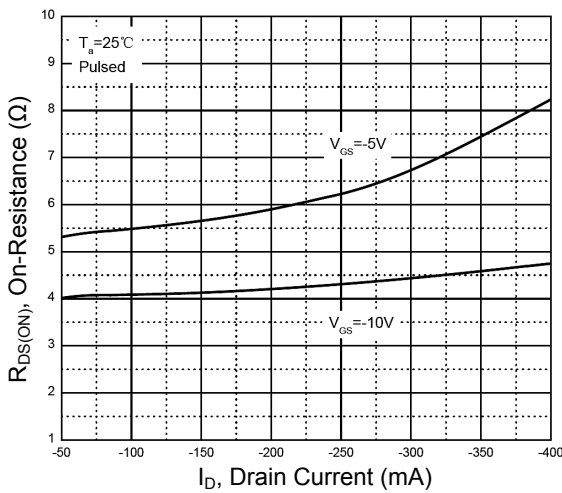


Figure 3. $R_{DS(ON)}$ vs. I_D

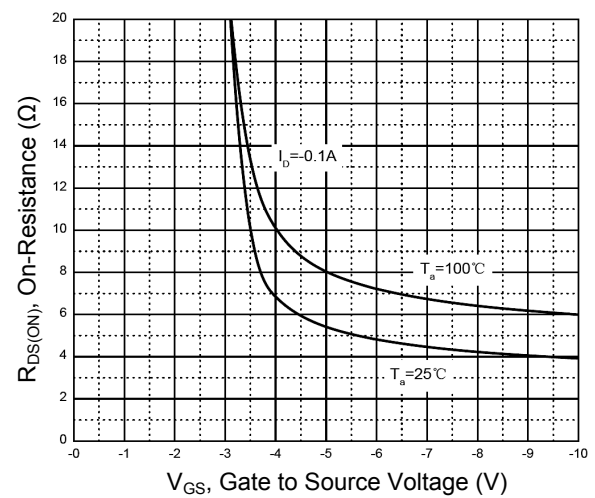


Figure 4. $R_{DS(ON)}$ vs. V_{GS}

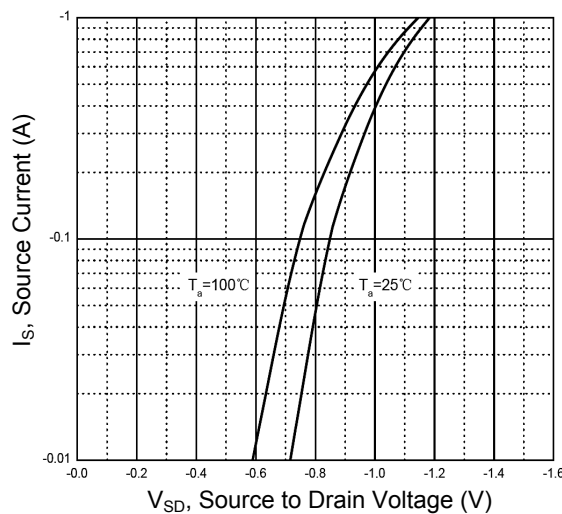


Figure 5. I_S vs. V_{SD}

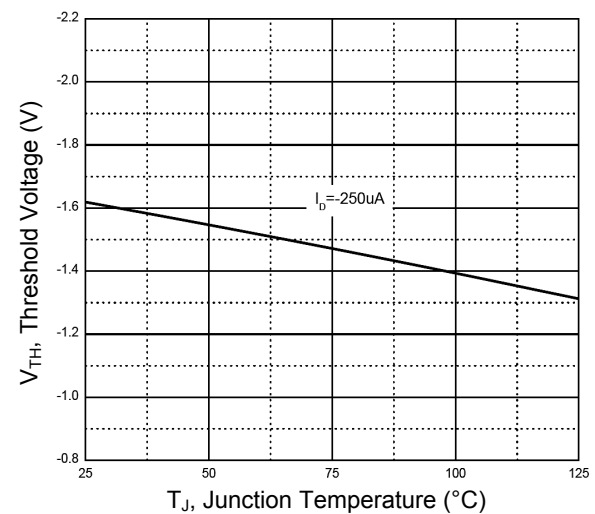
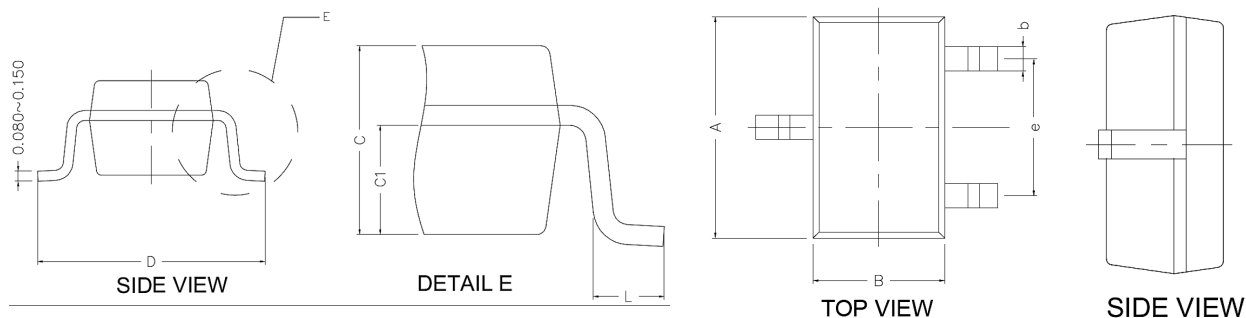


Figure 6. Threshold Voltage

Package Outline Dimensions (SOT-323)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	2.00	2.20	0.079	0.087
B	1.15	1.35	0.045	0.053
C	0.90	1.00	0.035	0.039
C1	0.50	0.60	0.020	0.024
D	2.10	2.50	0.083	0.098
L	0.22	0.50	0.009	0.020
b	0.20	0.40	0.008	0.016
e	1.30 Typ		0.051 Typ	

Order Information

Device	Package	Marking	Packaging	SPQ
BSS84AKW	SOT-323	P** (**varies by lot)	Tape & Reel	3,000 Pcs / Reel