

BSS84DW

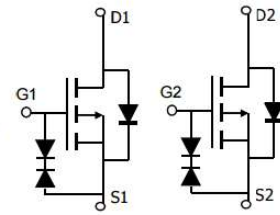
P-Channel Enhancement Mosfet

Feature

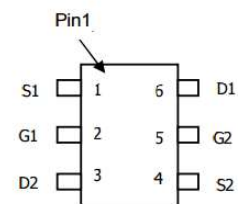
- -50V,-0.18A
 $R_{DS(ON)} < 5 \Omega @ V_{GS} = -10V$ TYP:2.1 Ω
 $R_{DS(ON)} < 8 \Omega @ V_{GS} = -4.5V$ TYP:2.7 Ω
- Advanced Trench Technology
- Lead free product is acquired
- ESD Protected Up to 2.0KV(HBM)

Application

- Interfacing Switching
- Load Switching
- Logic Level shift



Schematic Diagram



SOT-23 top view

Package Marking and Ordering Information

Device Marking	Device	Device Package	Reel Size	Tape width	Quantity (PCS)
-	BSS84DW	Sot-363	7 inch	-	3000

ABSOLUTE MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-50	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current ($T_a=25^\circ\text{C}$)	I_D	-0.18	A
Continuous Drain Current ($T_a=70^\circ\text{C}$)	I_D	-0.14	A
Pulsed Drain Current	I_{DM}	-1.2	A
Power Dissipation	P_D	0.3	W
Thermal Resistance from Junction to Ambient ⁽⁴⁾	$R_{\theta JA}$	400	$^\circ\text{C}/\text{W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^\circ\text{C}$

MOSFET ELECTRICAL CHARACTERISTICS($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-50	-	-	V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = -50V, V_{GS} = 0V$	-	-	-1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 12V, V_{DS} = 0V$	-	-	± 10	μA
Gate threshold voltage ⁽³⁾	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.8	-1.3	-2.0	V
Drain-source on-resistance ⁽³⁾	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -0.15A$	-	2.1	5	Ω
		$V_{GS} = -4.5V, I_D = -0.1A$	-	2.7	8	
Dynamic characteristics						
Input Capacitance	C_{iss}	$V_{DS} = -30V, V_{GS} = 0V, f = 1MHz$	-	29.4	-	pF
Output Capacitance	C_{oss}		-	3	-	
Reverse Transfer Capacitance	C_{rss}		-	1.2	-	
Switching characteristics						
Turn-on delay time	$t_{d(on)}$	$V_{DD} = -30V, I_D = -0.15A,$ $V_{GS} = -10V, R_G = 10\Omega$	-	1.6	-	ns
Turn-on rise time	t_r		-	5.2	-	
Turn-off delay time	$t_{d(off)}$		-	12	-	
Turn-off fall time	t_f		-	6.1	-	
Total Gate Charge	Q_g	$V_{DS} = -30V, I_D = -1A,$ $V_{GS} = -10V$	-	1.1	-	nC
Gate-Source Charge	Q_{gs}		-	0.1	-	
Gate-Drain Charge	Q_{gd}		-	0.3	-	
Source-Drain Diode characteristics						
Diode Forward voltage ⁽³⁾	V_{DS}	$V_{GS} = 0V, I_S = -0.18$	-	-	-1.2	V
Diode Forward current ⁽⁴⁾	I_S		-	-	-0.18	A

Notes:

1. Repetitive Rating: pulse width limited by maximum junction temperature
2. Pulse Test: pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$
3. Surface Mounted on FR4 Board, $t \leq 10$ sec

■ Typical Performance Characteristics

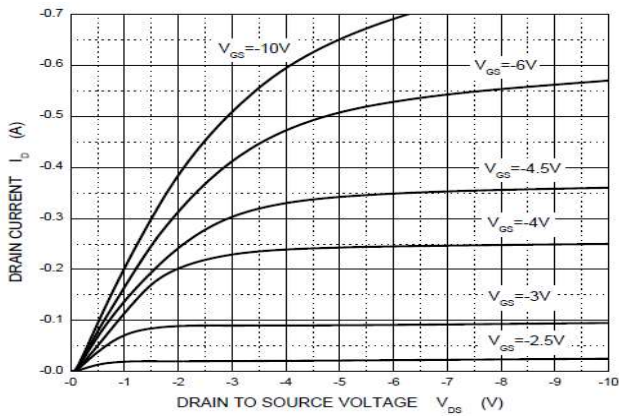


Figure1. Output Characteristics

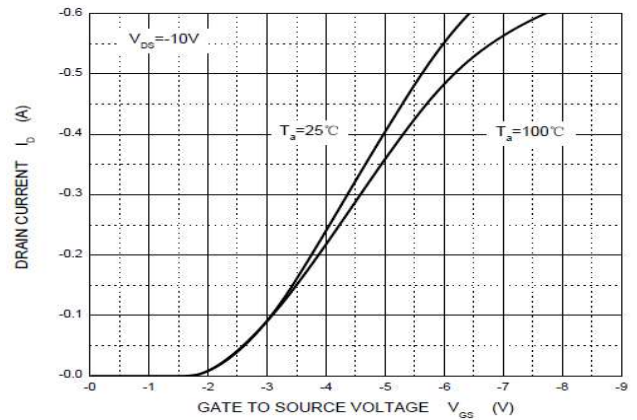


Figure2. Transfer Characteristics

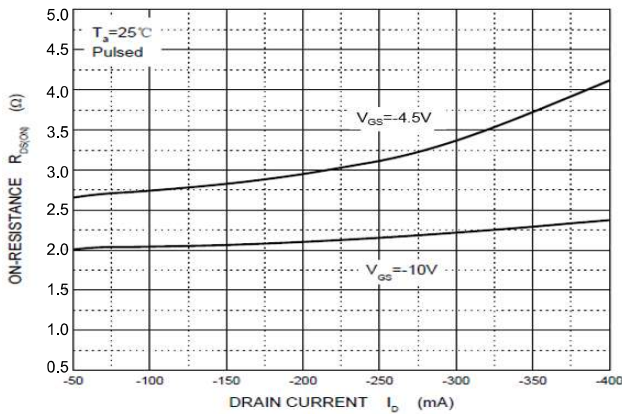


Figure3. Drain-Source on Resistance

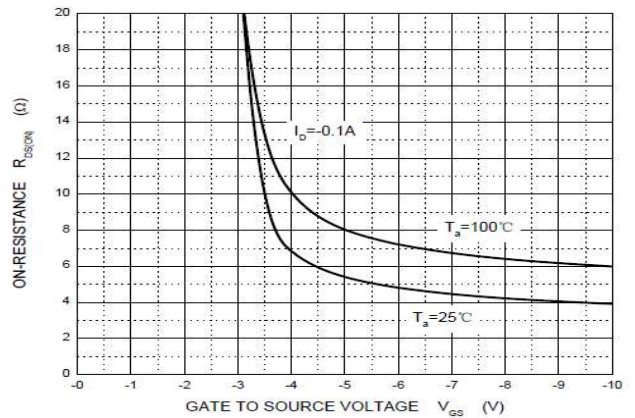


Figure4. Drain-Source on Resistance

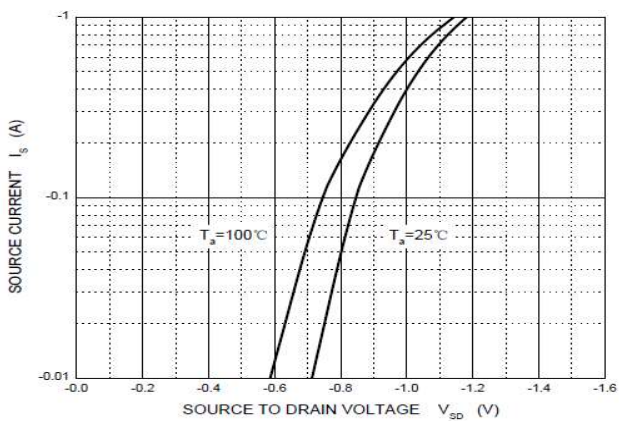


Figure5. Diode Forward Voltage vs. current

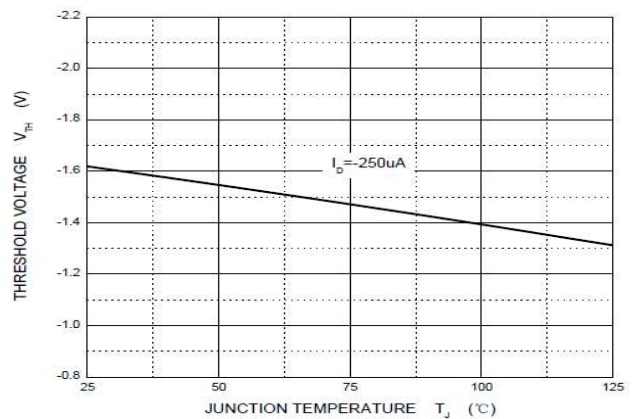
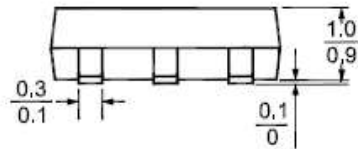
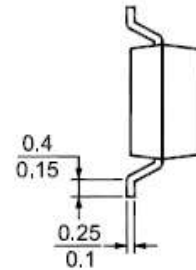
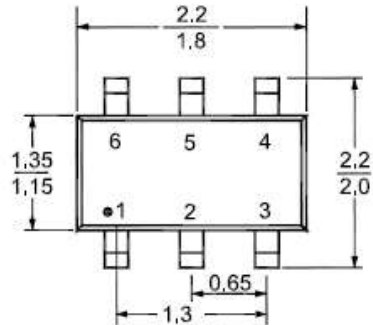


Figure6. Gate Threshold vs. Junction Temperature

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SOT-363 Package Information



Recommended Soldering Footprint

