



BSS84ZDW

Preliminary

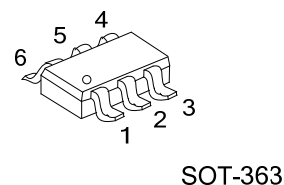
Power MOSFET

0.13A, 50V P-CHANNEL ENHANCEMENT MODE FIELD EFFECT TRANSISTOR

DESCRIPTION

These P-Channel enhancement mode field vertical D-MOS transistors are in a SOT-363 SMD package, and in most applications they require up to 0.13A DC and can deliver current up to 0.52A.

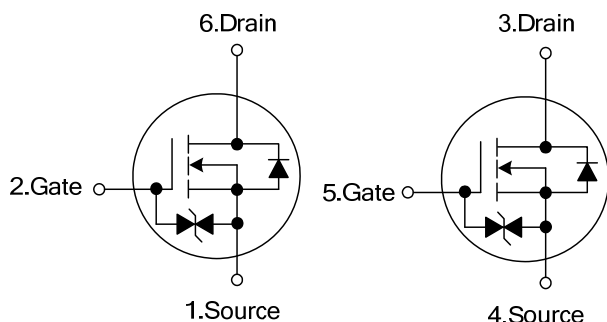
This product is particularly suited to low voltage applications requiring a low current high side switch.



FEATURES

* $R_{DS(ON)} < 10\Omega$ @ $V_{GS} = -4.5V$, $I_D = -0.1A$

SYMBOL

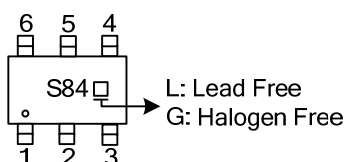


ORDERING INFORMATION

Ordering Number		Package	Pin Assignment						Packing
Lead Free	Halogen Free		1	2	3	4	5	6	
BSS84ZWL-AL6-R	BSS84ZWG-AL6-R	SOT-363	S1	G1	D2	S2	G2	D1	Tape Reel

BSS84ZDWG-AL6-R	(1)Packing Type	(1) R: Tape Reel
	(2)Package Type	(2) AL6: SOT-363
	(3)Green Package	(3) G: Halogen Free and Lead Free, L: Lead Free

MARKING



■ **ABSOLUTE MAXIMUM RATINGS** ($T_A = 25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Drain-Source Voltage	V_{DS}	-50	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	DC	-0.13	A
	Pulse	-0.52	
Power Dissipation	P_D	0.36	W
Junction Temperature	T_J	+150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150	$^\circ\text{C}$

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ **THERMAL DATA**

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	350	$^\circ\text{C/W}$

■ **ELECTRICAL CHARACTERISTICS** ($T_A = 25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=-250\mu A$	-50			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-50V, V_{GS}=0V$			-15	μA
Gate-Body Leakage, Forward	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 10	μA
ON CHARACTERISTICS (Note)						
Gate-Threshold Voltage	$V_{GS(TH)}$	$V_{DS}=V_{GS}, I_D=-1m A$	-0.8	-1.7	-2	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=-4.5V, I_D=-0.1A$		1.2	10	Ω
On-State Drain Current	$I_{D(ON)}$	$V_{GS}=-10 V, V_{DS}=-5V$	-0.6			A
Forward Transconductance	g_{FS}	$V_{DS}=-25V, I_D=-0.1A$	0.05	0.6		S
DYNAMIC PARAMETERS						
Input Capacitance	C_{ISS}	$V_{DS}=-25V, V_{GS}=0V, f=1MHz$		73		pF
Output Capacitance	C_{OSS}			10		pF
Reverse Transfer Capacitance	C_{RSS}			5		pF
SWITCHING PARAMETERS (Note)						
Total Gate Charge	Q_G	$V_{DS}=-30V, V_{GS}=-10V, I_D=-0.1A$		0.9	1.3	nC
Gate Source Charge	Q_{GS}			0.2		nC
Gate Drain Charge	Q_{GD}			0.3		nC
Turn-ON Delay Time	$t_{D(ON)}$	$V_{DD}=-30V, I_D=-0.1A, V_{GS}=-10V, R_G=6\Omega,$		2.5	5	ns
Turn-ON Rise Time	t_R			6.3	13	ns
Turn-OFF Delay Time	$t_{D(OFF)}$			10	20	ns
Turn-OFF Fall-Time	t_F			4.8	9.6	ns
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_S=-0.13A$ (Note)		-0.8	-1.2	V
Max. Diode Forward Current	I_S				-0.13	A
Pulsed Drain-Source Current	I_{Sm}				-0.52	A

Note: Pulse test, pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$

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