



BSS84ZDW

Preliminary

Power MOSFET

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

DESCRIPTION

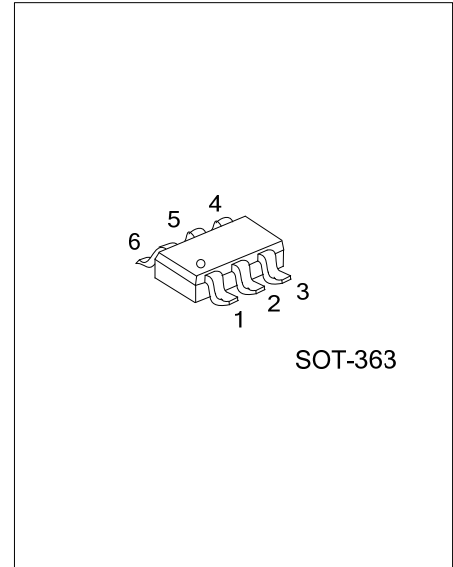
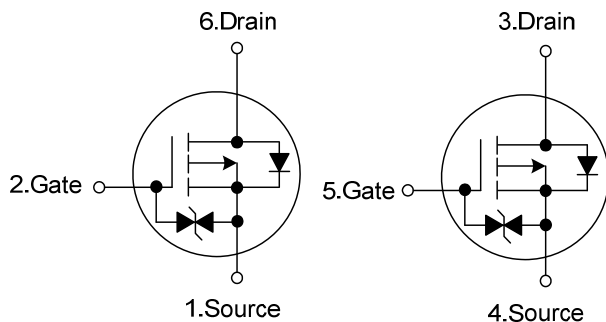
These P-Channel enhancement mode field vertical D-MOS transistors are in a SOT-363 SMD package, and in most applications they require up to 0.13A DC and can deliver current up to 0.52A.

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



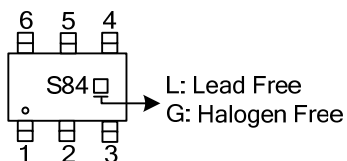
SOT-363

ORDERING INFORMATION

Ordering Number		Package	Pin Assignment						Packing
Lead Free	Halogen Free		1	2	3	4	5	6	
BSS84ZDWL-AL6-R	BSS84ZDWG-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 _{DSS}	-50	V
Gate-Source Voltage		V _{GSS}	±20	V
Continuous Drain Current	DC	I _D	-0.13	A
	Pulse		-0.52	A
Power Dissipation		P _D	0.36	W
Junction Temperature		T _J	+150	°C
Storage Temperature		T _{STG}	-55 ~ +150	°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 =-250μA	-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} =±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 =6Ω,		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						
Max. Diode Forward Current	I _S				-0.13	A
Pulsed Drain-Source Current	I _{Sm}				-0.52	A
Drain-Source Diode Forward Voltage	V _{SD}	V _{GS} = 0V, I _S =-0.13A (Note)		-0.8	-1.2	V

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

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