



DUAL P-CHANNEL ENHANCEMENT MODE MOSFET

This device contains two electrically-isolated P-channel, enhancement-mode MOSFETs, housed in a very small SOT-363 (SC70-6L) package. This device is ideal for portable applications where board space is at a premium.

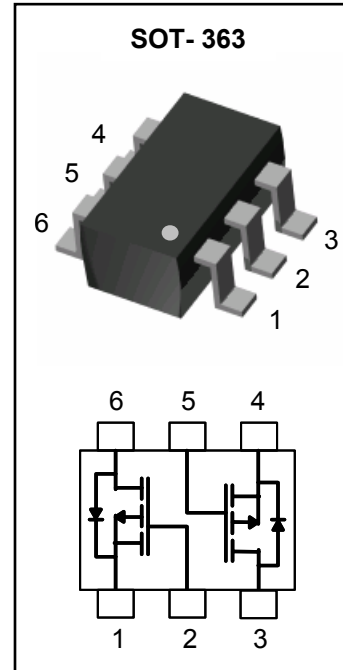
FEATURES

- Low On-Resistance
- Low Gate Threshold Voltage
- Fast Switching
- Available in lead-free plating (100% matte tin finish)

APPLICATIONS

- Switching Power Supplies
- Hand-Held Computers, PDAs

MARKING CODE: S84



MAXIMUM RATINGS $T_J = 25^{\circ}\text{C}$ Unless otherwise noted

Rating	Symbol	Value	Units
Drain-Source Voltage	V_{DSS}	- 50	V
Drain-Gate Voltage (Note 1)	V_{DGR}	- 50	V
Gate-Source Voltage	V_{GSS}	± 20	V
Drain Current	I_D	130	mA
Total Power Dissipation (Note 2)	P_D	200	mW
Operating Junction Temperature Range	T_J	-55 to +150	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^{\circ}\text{C}$

Note 1. $R_{GS} < 20\text{K ohms}$

THERMAL CHARACTERISTICS

Characteristic	Symbol	Value	Units
Thermal Resistance, Junction to Ambient (Note 2)	R_{thja}	625	$^{\circ}\text{C/W}$

Note 2. FR-5 board 1.0 x 0.75 x 0.062 inch with minimum recommended pad layout



Electrical Characteristics (Each Device)

T_J = 25°C Unless otherwise noted

OFF CHARACTERISTICS (Note 3)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	BV _{DSS}	I _D = -250μA, V _{GS} = 0V	-50	-	-	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -50V, V _{GS} = 0V, T _J = 25°C	-	-	-15	μA
		V _{DS} = -50V, V _{GS} = 0V, T _J = 125°C	-	-	-60	
		V _{DS} = -25V, V _{GS} = 0V, T _J = 25°C	-	-	-0.1	
Gate-Body Leakage	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V	-	-	±10	nA

ON CHARACTERISTICS (Note 3)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -1mA	-0.8	-1.44	-2.0	V
Static Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} = -5V, I _D = -0.1A	-	3.8	10	Ohms
Forward Transconductance	g _{FS}	V _{DS} = -25V, I _D = -0.1A	0.05	-	-	S

DYNAMIC CHARACTERISTICS

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Input Capacitance	C _{iss}	V _{DS} = -25V, V _{GS} = 0V, f = 1.0MHz	-	-	45	pF
Output Capacitance	C _{oss}		-	-	25	pF
Reverse Transfer Capacitance	C _{rss}		-	-	12	pF

SWITCHING CHARACTERISTICS

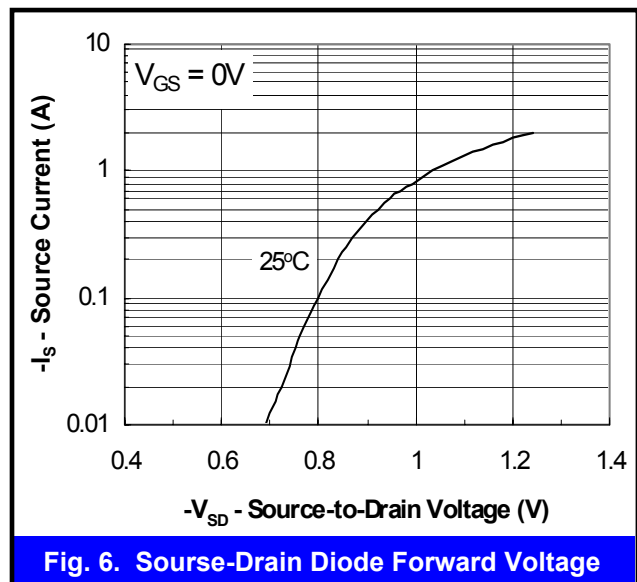
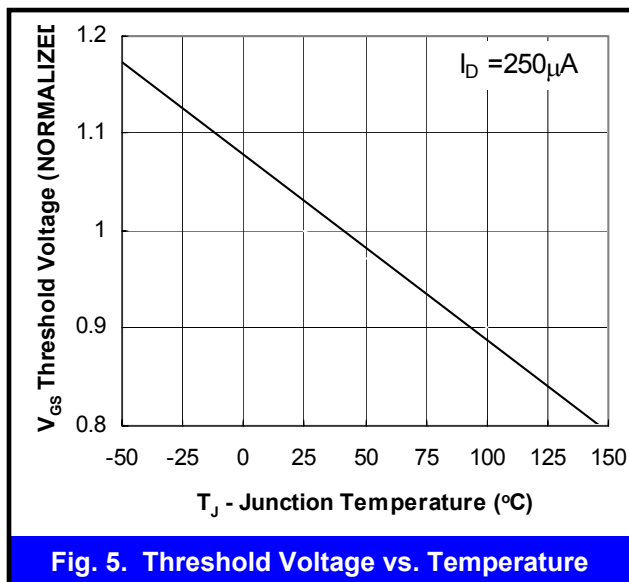
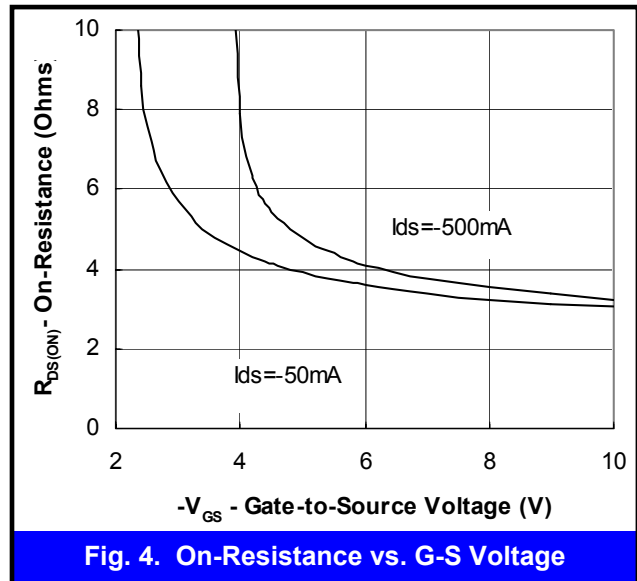
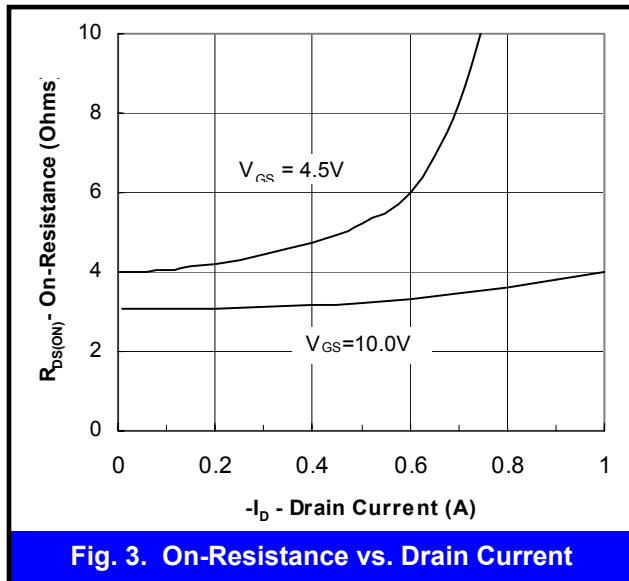
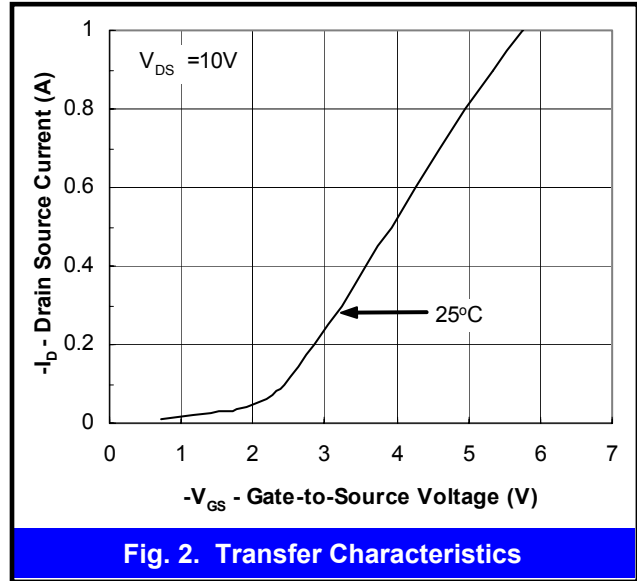
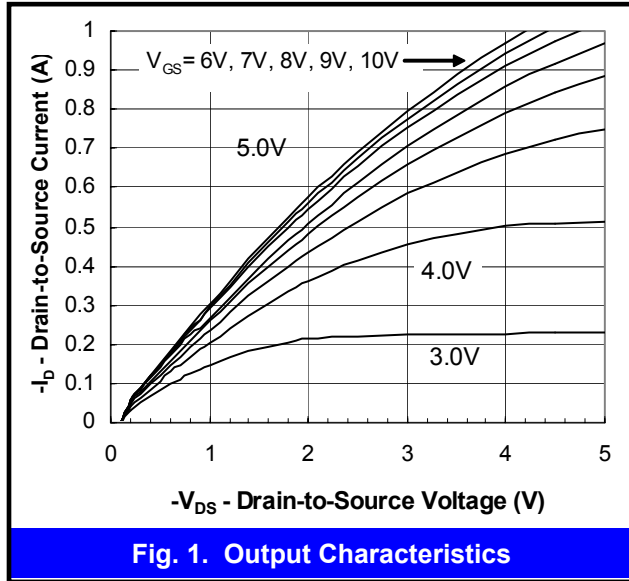
Parameter	Symbol	Conditions	Min	Typ	Max	Units
Turn-On Delay Time	t _{D(ON)}	V _{DD} = -30V, I _D = -0.27A, R _{GEN} = 50ohm, V _{GS} = -10V	-	7.5	-	ns
Turn-Off Delay Time	t _{D(OFF)}		-	25	-	ns

Note 3. Short duration test pulse used to minimize self-heating



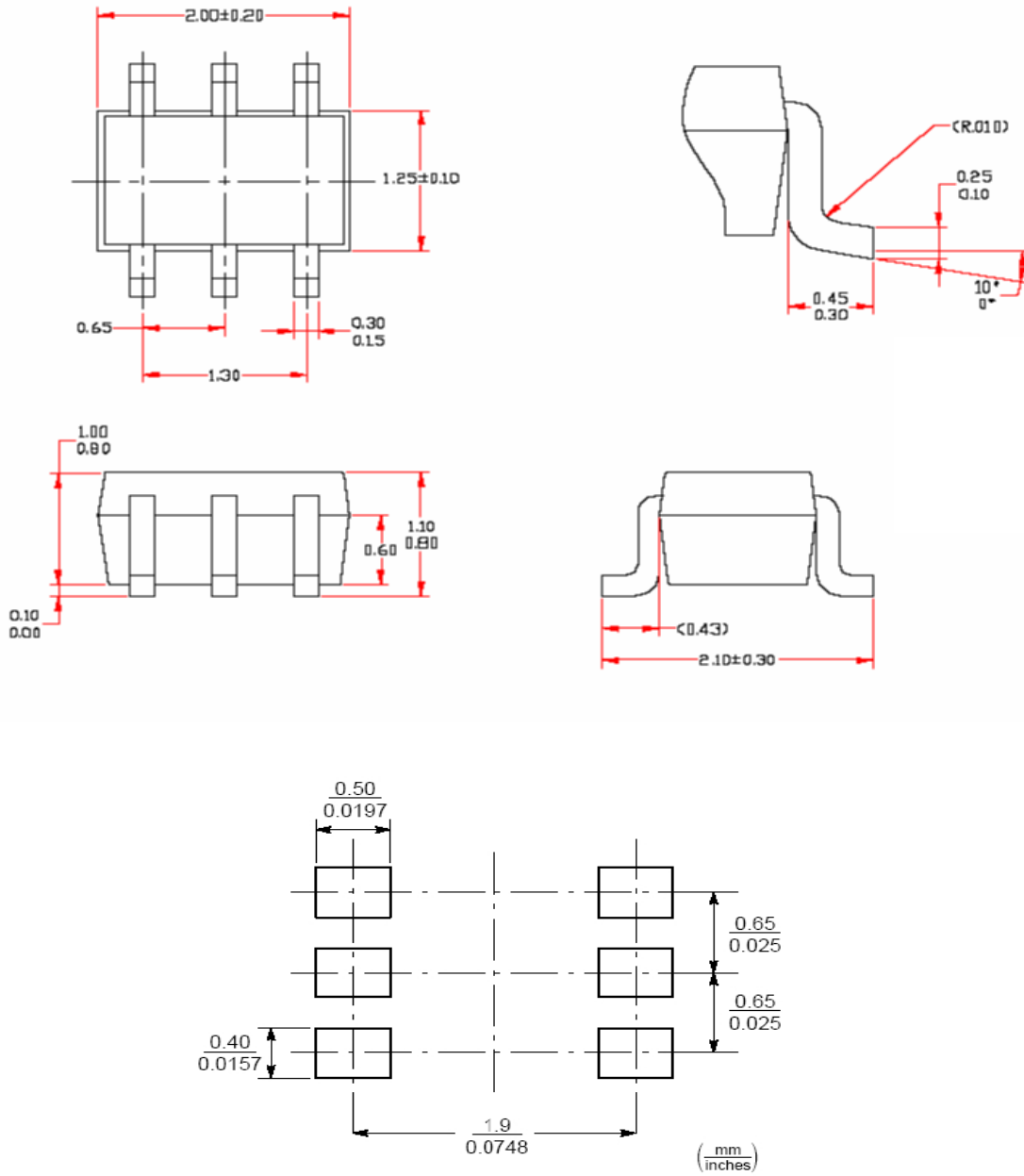
Electrical Characteristic Curves (Each Device)

$T_J = 25^\circ\text{C}$ Unless otherwise noted





PACKAGE LAYOUT AND SUGGESTED PAD DIMENSIONS



ORDERING INFORMATION

BSS84DW T/R7 - 7 inch reel, 3K units per reel

BSS84DW T/R13 - 13 inch reel, 10K units per reel

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