



P-CHANNEL ENHANCEMENT MODE MOSFET

This is a P-channel, enhancement-mode MOSFET, housed in the industry-standard, SOT-23 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
- Lead free in Vt a d'JUbW'k JH '9I 'Fc<G&'fB\$%#)#0I / ' &\$%) # *) #0I 'XjfYWFj YL
- Green molding compound as per IEC61249 Std. . (Halogen Free)

MECHANICAL DATA

- Case:SOT-23
- Terminals:Solder plated,solderable per MIL-STD-750,Method2026
- Approx. Weight: 0.0003 ounces, 0.0084 grams
- Marking code: 84L

APPLICATIONS

- Switching Power Supplies
- Hand-Held Computers, PDAs

MAXIMUM RATINGS

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

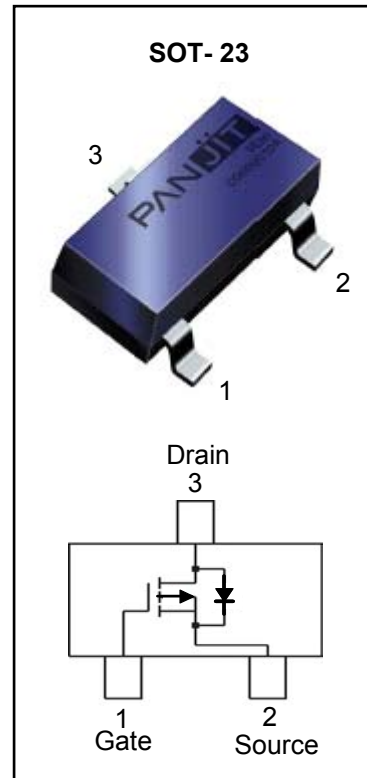
Rating	Symbol	Value	Units
Drain-Source Voltage	V_{DSS}	- 50	V
Drain-Gate Voltage (Note 1)	V_{DGR}	- 50	V
Gate-Source Voltage	V_{GSS}	± 20	V
Drain Current	I_D	130	mA
Total Power Dissipation (Note 2)	P_D	200	mW
Operating Junction Temperature Range	T_J	-55 to +150	$^{\circ}\text{C}$
Storage Temperature 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 x 0.75 x 0.062 inch with minimum recommended pad layout



**ELECTRICAL CHARACTERISTICS** $T_J = 25^\circ\text{C}$ Unless otherwise noted**OFF CHARACTERISTICS (Note 3)**

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	BV_{DSS}	$I_D = -250\mu\text{A}$, $V_{GS} = 0\text{V}$	-50	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -50\text{V}$, $V_{GS} = 0\text{V}$, $T_J = 25^\circ\text{C}$	-	-	-15	μA
		$V_{DS} = -50\text{V}$, $V_{GS} = 0\text{V}$, $T_J = 125^\circ\text{C}$	-	-	-60	
		$V_{DS} = -25\text{V}$, $V_{GS} = 0\text{V}$, $T_J = 25^\circ\text{C}$	-	-	-0.1	
Gate-Body Leakage	I_{GSS}	$V_{GS} = \pm 20\text{V}$, $V_{DS} = 0\text{V}$	-	-	± 10	nA

ON CHARACTERISTICS (Note 3)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = -1\text{mA}$	-0.8	-1.44	-2.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS} = -5\text{V}$, $I_D = -0.1\text{A}$	-	3.8	10	Ohms
Forward Transconductance	g_{FS}	$V_{DS} = -25\text{V}$, $I_D = -0.1\text{A}$	0.05	-	-	S

DYNAMIC CHARACTERISTICS

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

SWITCHING CHARACTERISTICS

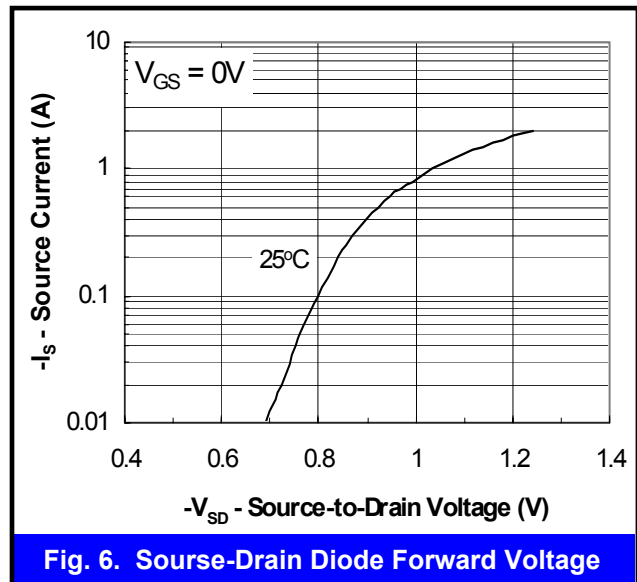
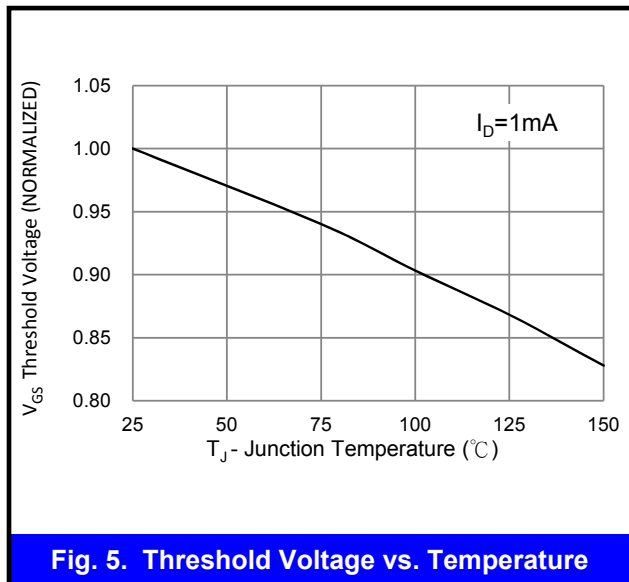
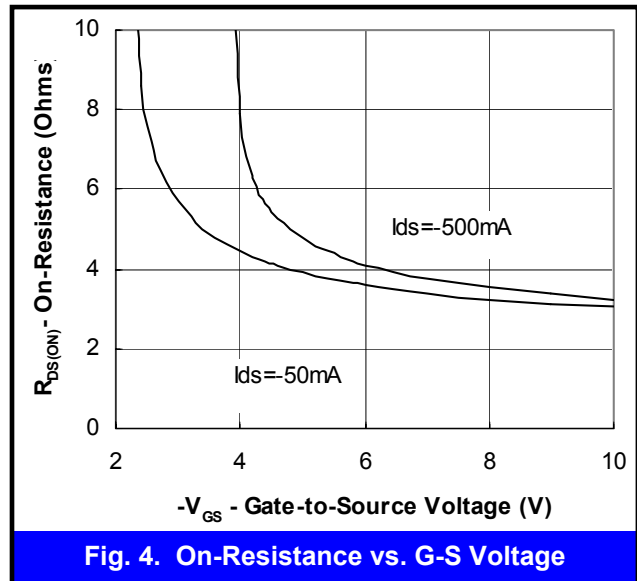
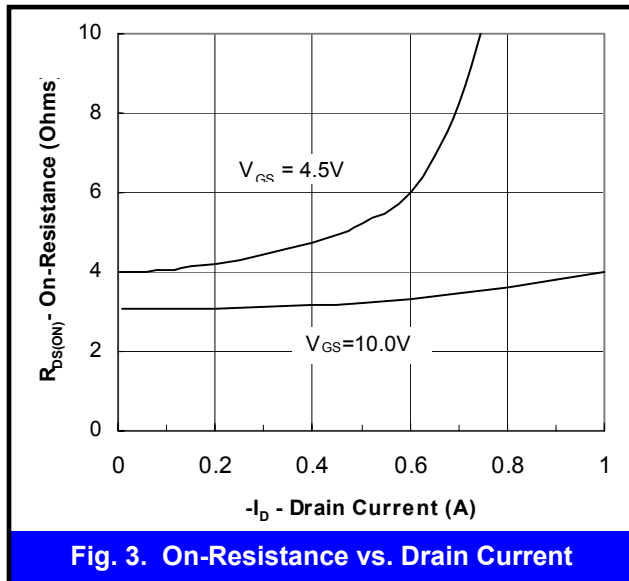
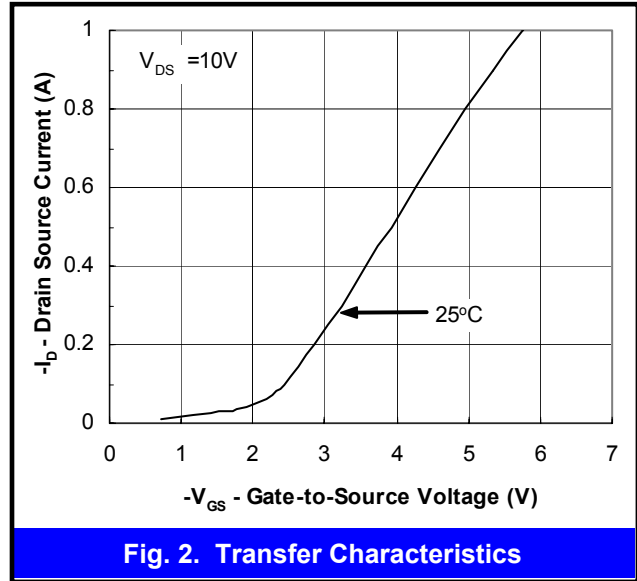
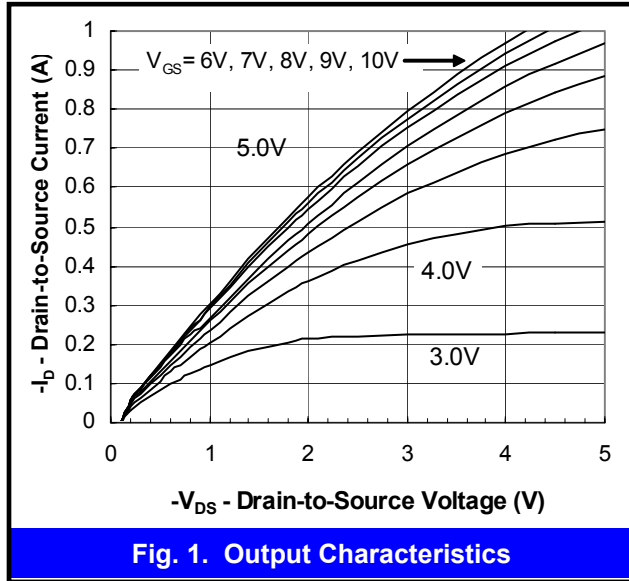
Parameter	Symbol	Conditions	Min	Typ	Max	Units
Turn-On Delay Time	$t_{D(ON)}$	$V_{DD} = -30\text{V}$, $I_D = -0.27\text{A}$, $R_{GEN} = 50\text{ohm}$, $V_{GS} = -10\text{V}$	-	7.5	-	ns
Turn-Off Delay Time	$t_{D(OFF)}$		-	25	-	ns

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



ELECTRICAL CHARACTERISTIC CURVES

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

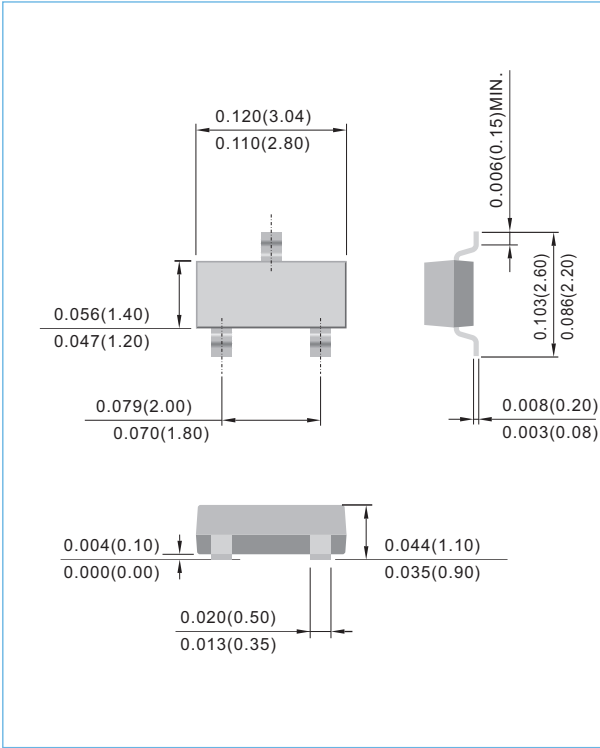




PACKAGE LAYOUT AND SUGGESTED PAD DIMENSIONS

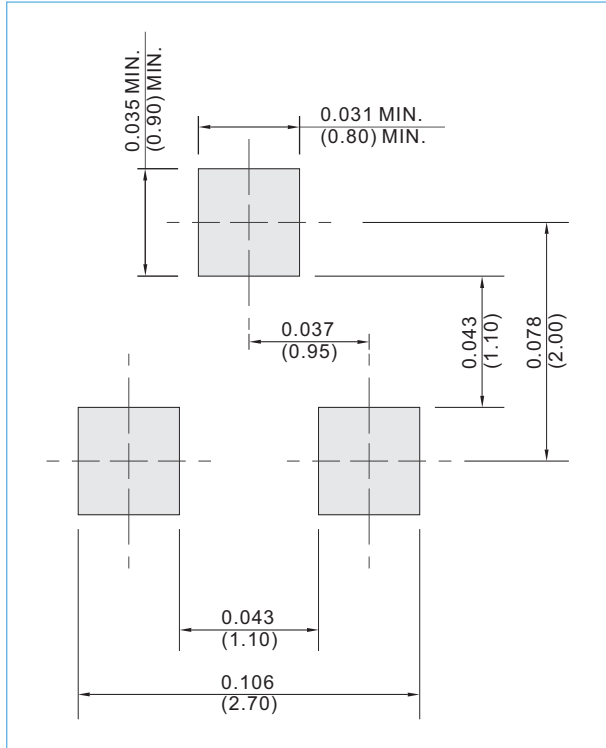
SOT-23

Unit : inch (mm)



SOT-23

Unit : inch (mm)



ORDERING INFORMATION

BSS84 T/R7 - 7 inch reel, 3K units per reel

BSS84 T/R13 - 13 inch reel, 12K units per reel



Part No_packing code_Version

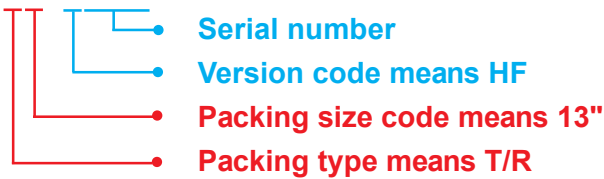
BSS84_R1_00001

BSS84_R2_00001

For example :

RB500V-40_R2_00001

Part No.



Packing Code XX				Version Code XXXXX		
Packing type	1 st Code	Packing size code	2 nd Code	HF or RoHS	1 st Code	2 nd ~5 th Code
Tape and Ammunition Box (T/B)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			



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