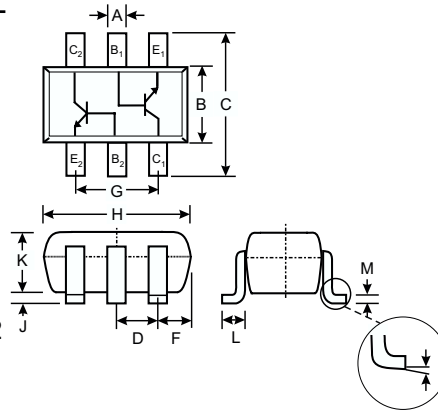


### Features

- Ideally Suited for Automatic Insertion
- For Switching and AF Amplifier Applications
- Ultra-Small Surface Mount Package

### Mechanical Data

- Case: SOT-363, Molded Plastic
- Case material - UL Flammability Rating Classification 94V - 0
- Moisture sensitivity: Level 1 per J-STD-020A
- Terminals: Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- Marking: K1F (See Page 2)
- Weight: 0.006 grams
- Ordering & Date Code Information: See Page 2



SOT-363		
Dim	Min	Max
A	0.10	0.30
B	1.15	1.35
C	2.00	2.20
D	0.65 Nominal	
F	0.30	0.40
H	1.80	2.20
J	—	0.10
K	0.90	1.00
L	0.25	0.40
M	0.10	0.25
α	°8	
All Dimensions in mm		

### Maximum Ratings @ T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V <sub>CB0</sub>	50	V
Collector-Emitter Voltage	V <sub>CE0</sub>	45	V
Emitter-Base Voltage	V <sub>EB0</sub>	5.0	V
Collector Current	I <sub>C</sub>	100	mA
Peak Collector Current	I <sub>CM</sub>	200	mA
Peak Base Current	I <sub>BM</sub>	200	mA
Power Dissipation (Note 1)	P <sub>d</sub>	200	mW
Thermal Resistance, Junction to Ambient (Note 1)	R <sub>θJA</sub>	500	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +125	°C

Notes: 1. Device mounted on FR-4 PCB, 1 inch x 0.85 inch; pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.

## Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified

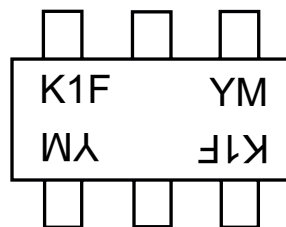
Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
DC Current Gain (Note 2)	h <sub>FE</sub>	200	—	450	—	V <sub>CE</sub> = 5.0V, I <sub>C</sub> = 2.0mA
Collector-Emitter Saturation Voltage (Note 2)	V <sub>CE(SAT)</sub>	—	—	100 400	mV	I <sub>C</sub> = 10mA, I <sub>B</sub> = 0.5mA I <sub>C</sub> = 100mA, I <sub>B</sub> = 5.0mA
Base-Emitter Saturation Voltage (Note 2)	V <sub>BE(SAT)</sub>	—	755	—	mV	I <sub>C</sub> = 10mA, I <sub>B</sub> = 0.5mA
Base-Emitter Voltage (Note 2)	V <sub>BE</sub>	580	665	700	mV	V <sub>CE</sub> = 5.0V, I <sub>C</sub> = 2.0mA
Collector Cutoff Current (Note 2)	I <sub>CB0</sub> I <sub>CBO</sub>	—	—	15 5.0	nA μA	V <sub>CB</sub> = 30V, I <sub>E</sub> = 0 V <sub>CB</sub> = 30V, T <sub>J</sub> = 125°C
Emitter Cutoff Current (Note 2)	I <sub>EBO</sub>	—	—	100	nA	V <sub>EB</sub> = 5.0V, I <sub>C</sub> = 0
Gain Bandwidth Product	f <sub>T</sub>	100	—	—	MHz	V <sub>CE</sub> = 5.0V, I <sub>C</sub> = 10mA, f = 100MHz
Collector-Base Capacitance	C <sub>CB0</sub>	—	—	1.5	pF	V <sub>CB</sub> = 10V, f = 1.0MHz
Emitter-Base Capacitance	C <sub>EBO</sub>	—	11	—	pF	V <sub>EB</sub> = 0.5V, f = 1.0MHz

## Ordering Information (Note 3)

Device	Packaging	Shipping
BC847BS-7	SOT-363	3000/Tape & Reel

- Notes: 2. Short duration pulse test used to minimize self-heating effect.  
3. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

## Marking Information

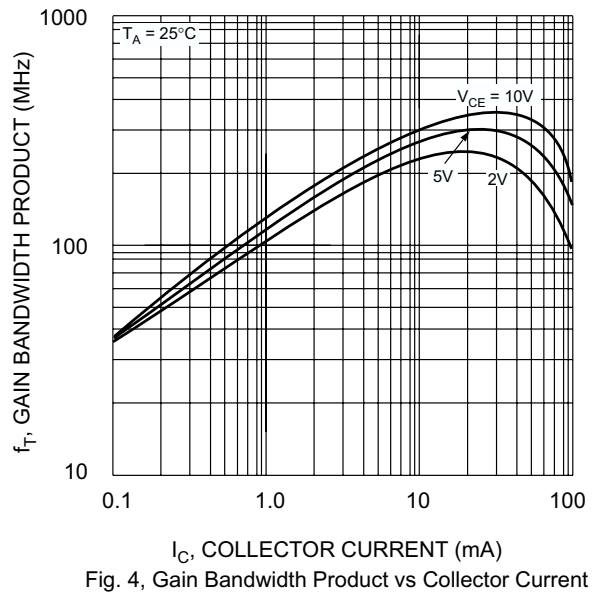
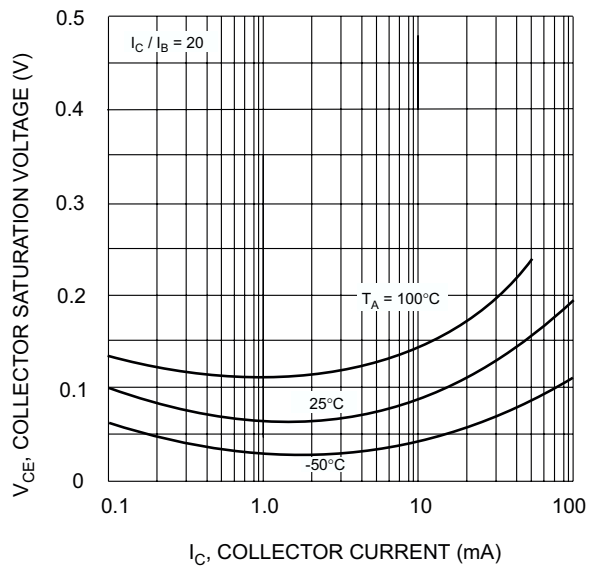
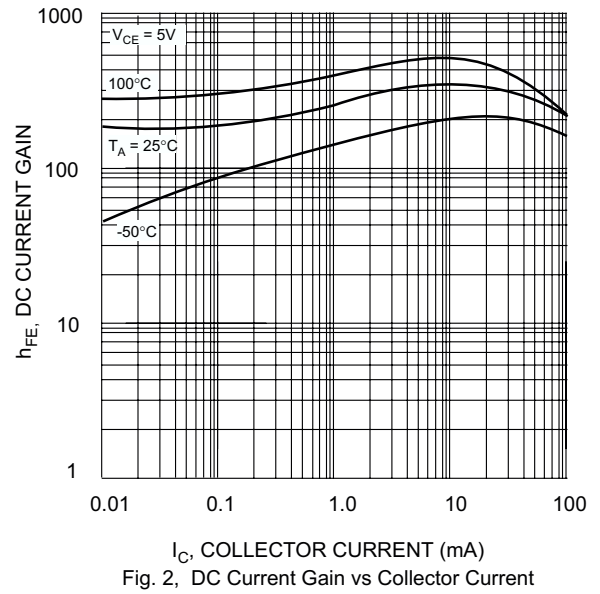
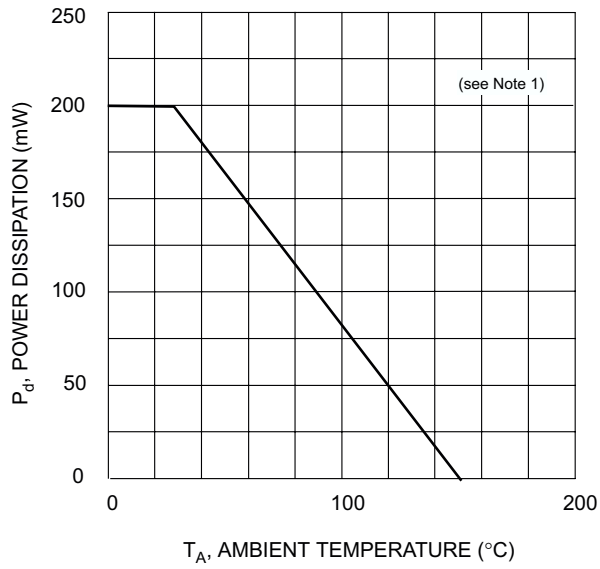


K1F = Product Type Marking Code  
YM = Date Code Marking  
Y = Year ex: N = 2002  
M = Month ex: 9 = September

### Date Code Key

Year	1998	1999	2000	2001	2002	2003	2004
Code	J	K	L	M	N	P	R

Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D



Notes: 1. Device mounted on FR4 printed circuit board.

This datasheet has been downloaded from:

[www.DatasheetCatalog.com](http://www.DatasheetCatalog.com)

Datasheets for electronic components.



LittleDiode supplies new, hard to find or obsolete electronic components and semiconductors all over the world.

With over two million different components listed you are sure to find the part you need.

Feel free to visit us today at our online store:

[LittleDiode.com](http://LittleDiode.com)

Looking forward to providing you with the best possible service.