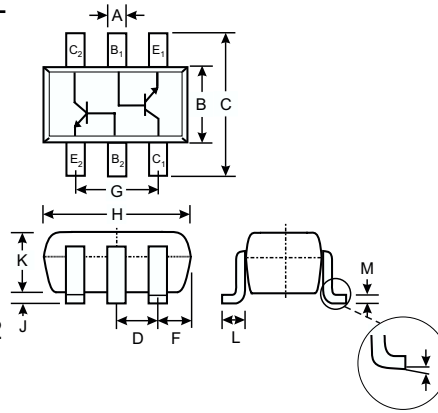


### Features

- 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

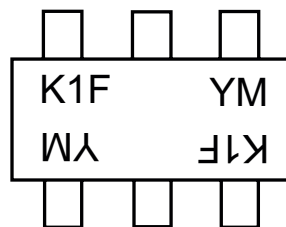
Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
DC Current Gain (Note 2)	h <sub>FE</sub>	200	—	450	—	V <sub>CE</sub> = 5.0V, I <sub>C</sub> = 2.0mA
Collector-Emitter Saturation Voltage (Note 2)	V <sub>CE(SAT)</sub>	—	—	100 400	mV	I <sub>C</sub> = 10mA, I <sub>B</sub> = 0.5mA I <sub>C</sub> = 100mA, 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

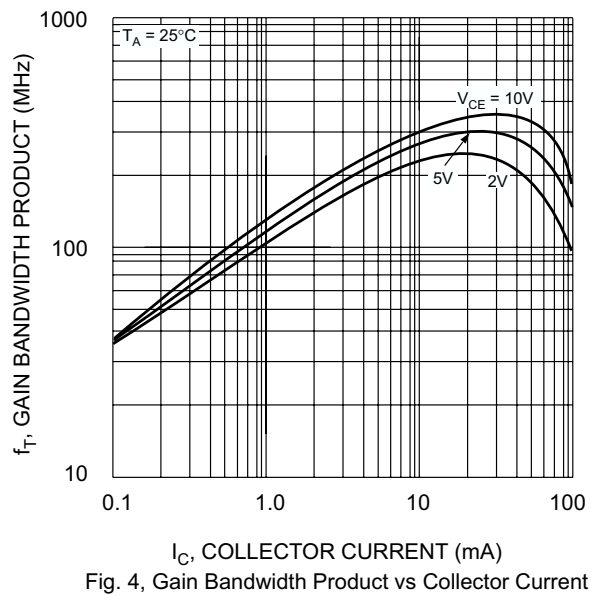
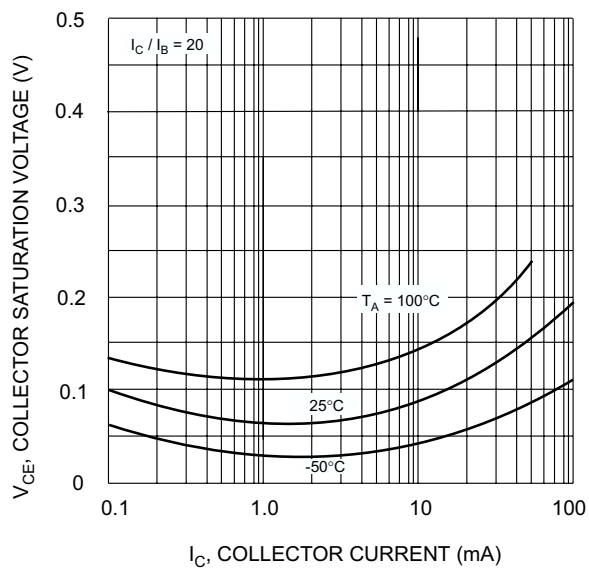
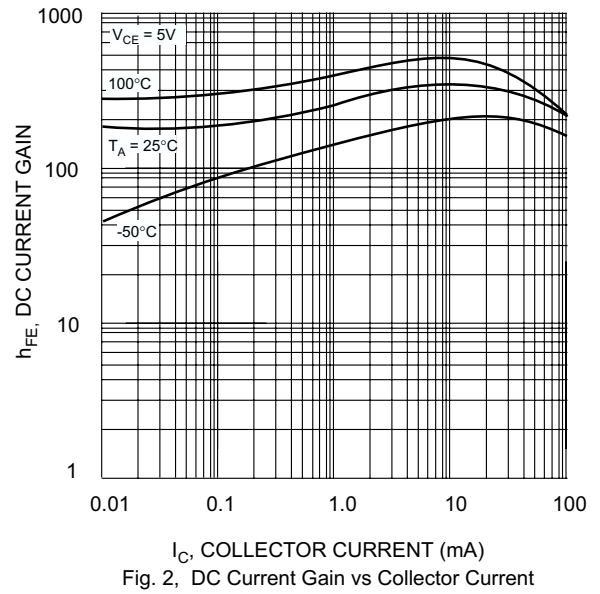
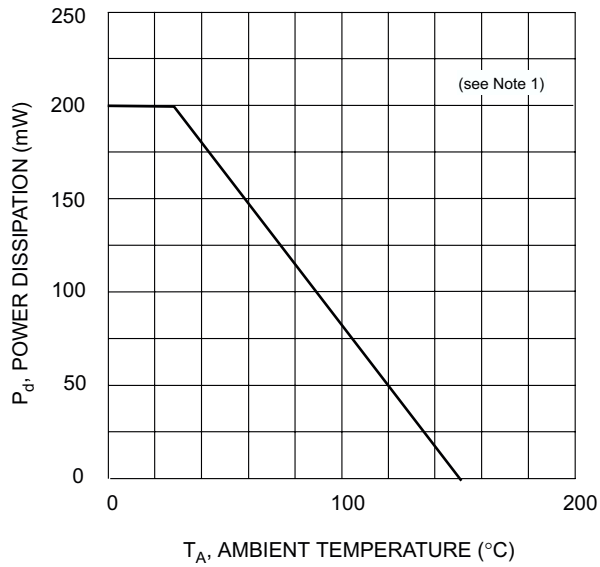


K1F = Product Type Marking Code  
 YM = Date Code Marking  
 Y = Year ex: N = 2002  
 M = Month ex: 9 = September

### 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.