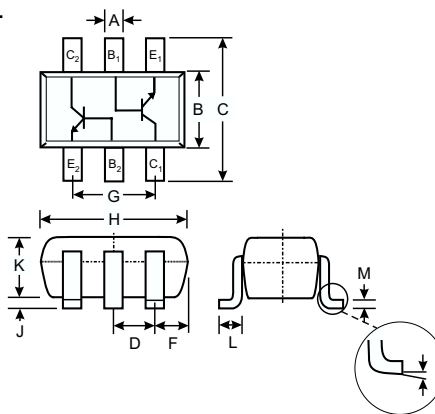


Features

- 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_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V _{CB0}	50	V
Collector-Emitter Voltage	V _{CE0}	45	V
Emitter-Base Voltage	V _{EB0}	5.0	V
Collector Current	I _C	100	mA
Peak Collector Current	I _{CM}	200	mA
Peak Base Current	I _{BM}	200	mA
Power Dissipation (Note 1)	P _d	200	mW
Thermal Resistance, Junction to Ambient (Note 1)	R _{θJA}	500	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-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 @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
DC Current Gain (Note 2)	h_{FE}	200	—	450	—	$V_{CE} = 5.0\text{V}$, $I_C = 2.0\text{mA}$
Collector-Emitter Saturation Voltage (Note 2)	$V_{CE(SAT)}$	—	—	100 400	mV	$I_C = 10\text{mA}$, $I_B = 0.5\text{mA}$ $I_C = 100\text{mA}$, $I_B = 5.0\text{mA}$
Base-Emitter Saturation Voltage (Note 2)	$V_{BE(SAT)}$	—	755	—	mV	$I_C = 10\text{mA}$, $I_B = 0.5\text{mA}$
Base-Emitter Voltage (Note 2)	V_{BE}	580	665	700	mV	$V_{CE} = 5.0\text{V}$, $I_C = 2.0\text{mA}$
Collector Cutoff Current (Note 2)	I_{CBO} I_{CBO}	—	—	15 5.0	nA μA	$V_{CB} = 30\text{V}$, $I_E = 0$ $V_{CB} = 30\text{V}$, $T_J = 125^\circ\text{C}$
Emitter Cutoff Current (Note 2)	I_{EBO}	—	—	100	nA	$V_{EB} = 5.0\text{V}$, $I_C = 0$
Gain Bandwidth Product	f_T	100	—	—	MHz	$V_{CE} = 5.0\text{V}$, $I_C = 10\text{mA}$, $f = 100\text{MHz}$
Collector-Base Capacitance	C_{CBO}	—	—	1.5	pF	$V_{CB} = 10\text{V}$, $f = 1.0\text{MHz}$
Emitter-Base Capacitance	C_{EBO}	—	11	—	pF	$V_{EB} = 0.5\text{V}$, $f = 1.0\text{MHz}$

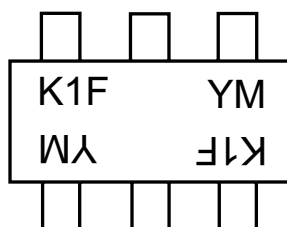
Ordering Information (Note 3)

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

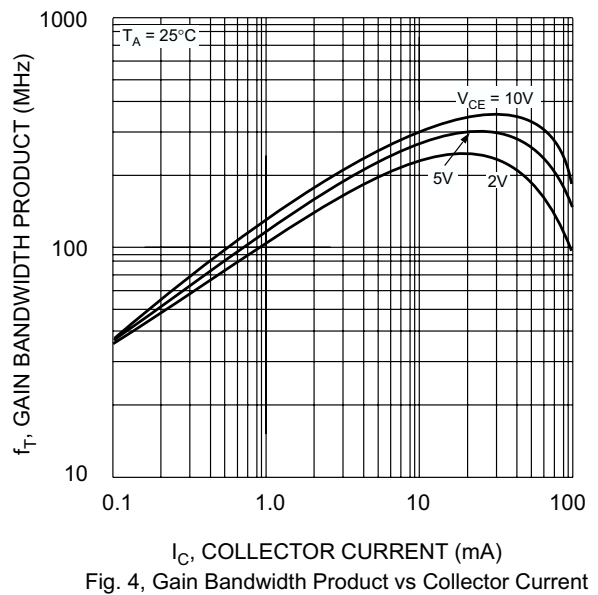
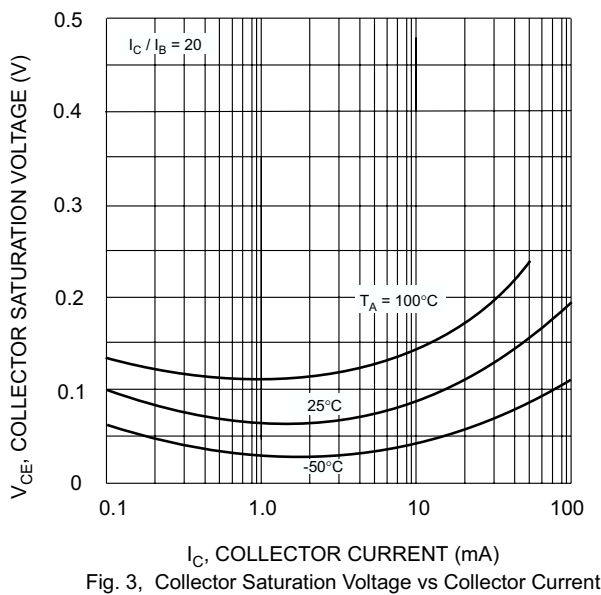
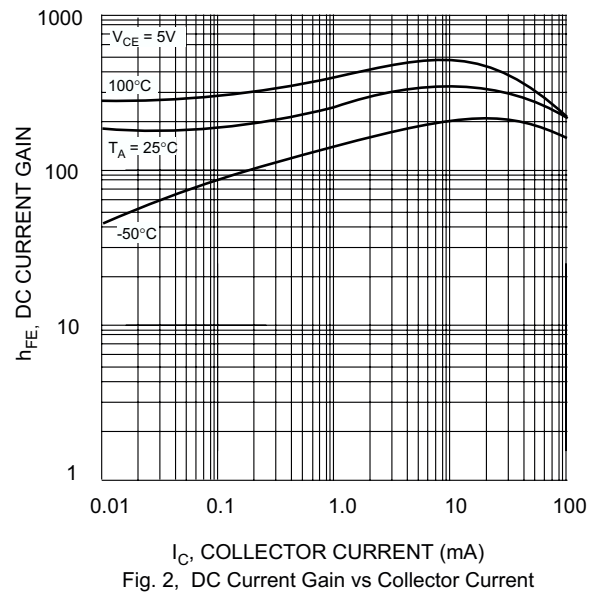
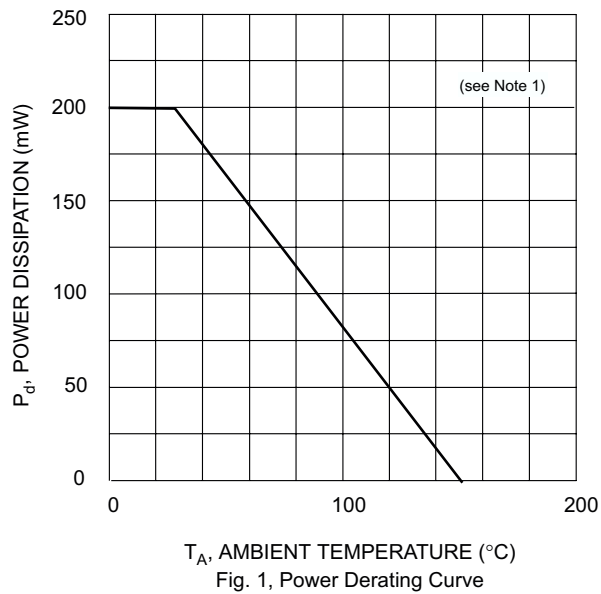


K1F = Product Type Marking Code
YM = Date Code Marking
Y = Year ex: N = 2002
M = Month ex: 9 = September

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.