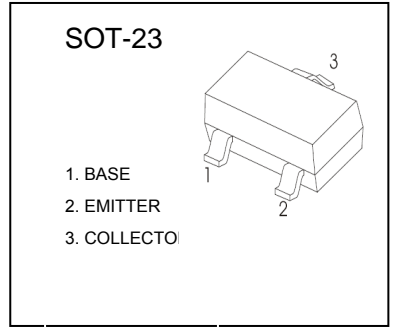


GENERAL DESCRIPTION

FEATURES

- For general AF applications
- High collector current
- High current gain
- Low collector-emitter saturation voltage
- Complementary types: TKBC807 (PNP)



MAXIMUM RATINGS (T<sub>a</sub>=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V <sub>CB0</sub>	Collector-Base Voltage	50	V
V <sub>CEO</sub>	Collector-Emitter Voltage	45	V
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current	500	mA
P <sub>C</sub>	Collector Power Dissipation	300	mW
R <sub>θJA</sub>	Thermal Resistance From Junction To Ambient	417	°C/W
T <sub>j</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	55~+150	°C

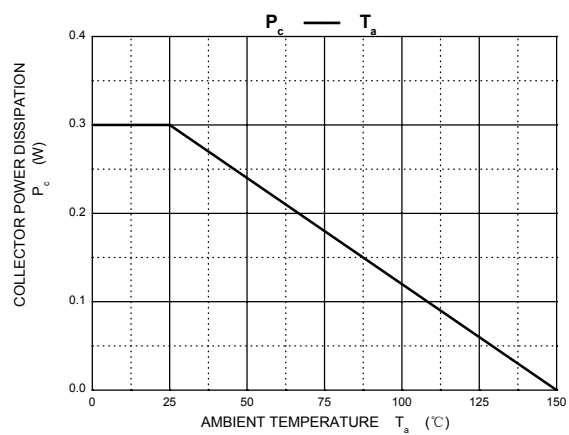
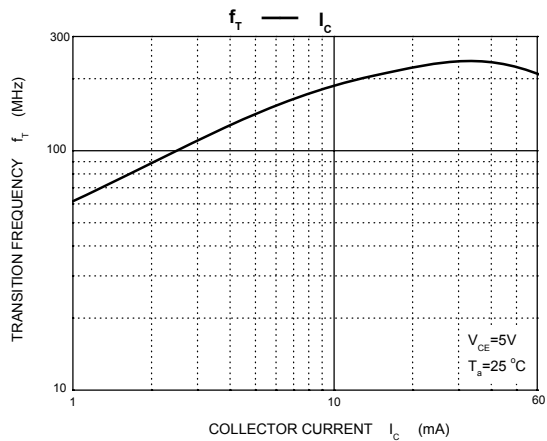
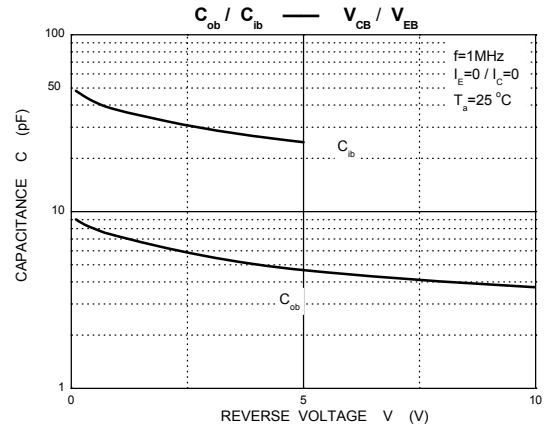
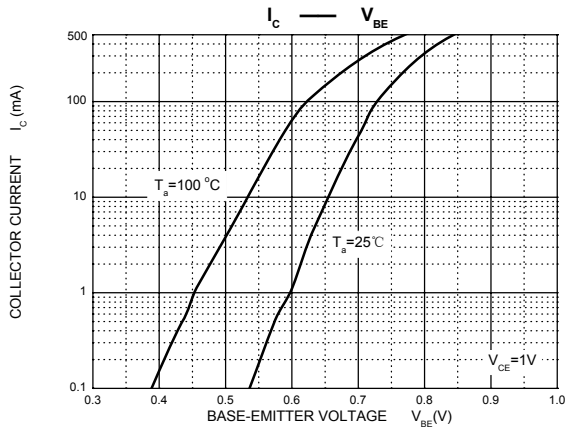
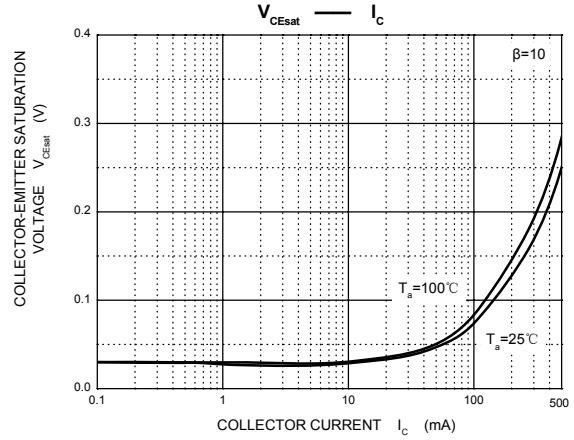
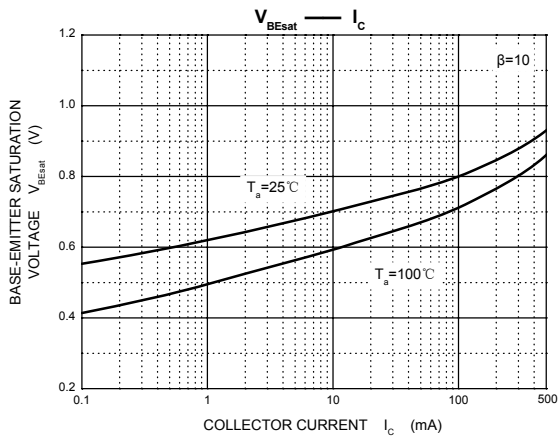
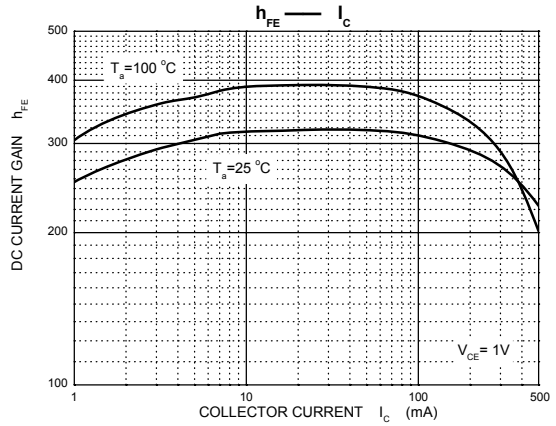
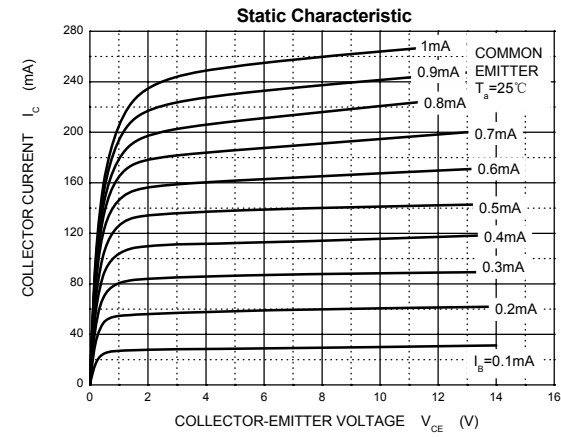
TESTING CONDITIONS

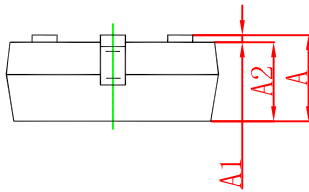
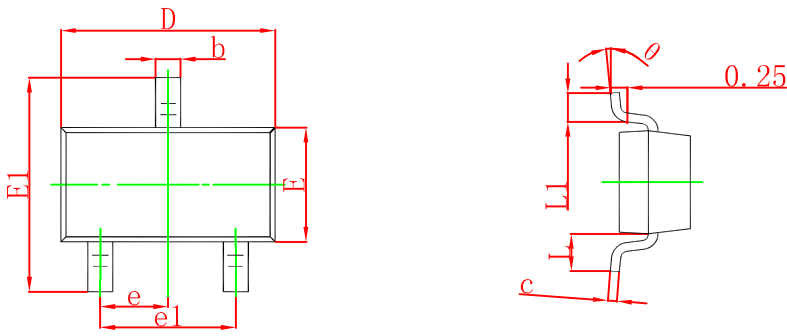
Symbol	Parameter	Test Conditions	A <sub>in</sub>	Typ	A <sub>ax</sub>	Unit
V <sub>CB0</sub>	Collector-Base Voltage	I <sub>C</sub> = 10μA, I <sub>E</sub> = 0	50			V
V <sub>CEO</sub>	Collector-Emitter Voltage	I <sub>C</sub> = 10mA, I <sub>B</sub> = 0	45			V
V <sub>EBO</sub>	Emitter-Base Voltage	I <sub>E</sub> = 1μA, I <sub>C</sub> = 0	5			V
I <sub>CB0</sub>	Collector-Base Current	V <sub>CB</sub> = 45V, I <sub>E</sub> = 0			0.1	μA
I <sub>EBO</sub>	Emitter-Base Current	V <sub>EB</sub> = 4V, I <sub>C</sub> = 0			0.1	μA
h <sub>FE(1)</sub>	DC Current Gain	V <sub>CE</sub> = 1V, I <sub>C</sub> = 100mA	100		600	
		V <sub>CE</sub> = 1V, I <sub>C</sub> = 500mA	40			
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 500mA, I <sub>B</sub> = 50mA			0.7	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 500mA, I <sub>B</sub> = 50mA			1.2	V
V <sub>BE</sub>	Base-Emitter Voltage	V <sub>CE</sub> = 1V, I <sub>C</sub> = 500mA			1.2	V
C <sub>ob</sub>	Output Capacitance	V <sub>CB</sub> = 10V, f = 1MHz		10		pF
f <sub>T</sub>	Transition Frequency	V <sub>CE</sub> = 5V, I <sub>C</sub> = 10mA, f = 100MHz	100			MHz

PACKAGE DIMENSIONS

Symbol	TKBC817-16	TKBC817-25	TKBC817-40
F <sub>ub</sub>	100-250	160-400	250-400
A <sub>UF</sub>	6A	6B	6C

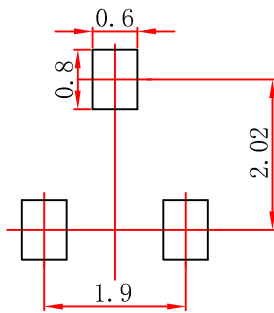
## Typical Characteristics





Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

### SOT-23 Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
  2. General tolerance:  $\pm 0.05\text{mm}$ .
  3. The pad layout is for reference purposes only.