

General Purpose Transistors

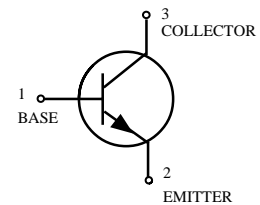
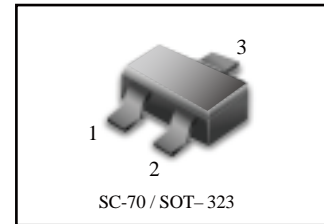
NPN Silicon

FEATURE

- Low Cob, Cob=2pF(Typ.).
- Epitaxial planar type.
- PNP complement : FTA1576

DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
FTC4081-Q	BQ	3000/Tape&Reel
FTC4081-Q	BQ	10000/Tape&Reel
FTC4081-R	BR	3000/Tape&Reel
FTC4081-R	BR	10000/Tape&Reel
FTC4081-S	BS	3000/Tape&Reel
FTC4081-S	BS	10000/Tape&Reel



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector–Emitter Voltage	V_{CE0}	50	V
Collector–Base Voltage	V_{CBO}	60	V
Emitter–Base Voltage	V_{EBO}	7.0	V
Collector Current — Continuous	I_C	150	mAdc
Collector power dissipation	P_C	0.2	W
Junction temperature	T_j	150	C
Storage temperature	T_{stg}	-55 ~ +150	C

h_{FE} values are classified as follows:

*	Q	R	S
h_{FE}	120~270	180~390	270~560



FTC4081

ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
Collector-Emitter Breakdown Voltage ($I_C = 1\text{ mA}$)	$V_{(BR)CEO}$	50	—	—	V
Emitter-Base Breakdown Voltage ($I_E = 50\text{ }\mu\text{A}$)	$V_{(BR)EBO}$	7	—	—	V
Collector-Base Breakdown Voltage ($I_C = 50\text{ }\mu\text{A}$)	$V_{(BR)CBO}$	60	—	—	V
Collector Cutoff Current ($V_{CB} = 60\text{ V}$)	I_{CBO}	—	—	0.1	μA
Emitter cutoff current ($V_{EB} = 7\text{ V}$)	I_{EBO}	—	—	0.1	μA
Collector-emitter saturation voltage ($I_C / I_B = 50\text{ mA} / 5\text{ mA}$)	$V_{CE(sat)}$	—	—	0.4	V
DC current transfer ratio ($V_{CE} = 6\text{ V}, I_C = 1\text{ mA}$)	h_{FE}	120	—	560	—
Transition frequency ($V_{CE} = 12\text{ V}, I_E = -2\text{ mA}, f = 30\text{ MHz}$)	f_T	—	180	—	MHz
Output capacitance ($V_{CB} = 12\text{ V}, I_E = 0\text{ A}, f = 1\text{ MHz}$)	C_{ob}	—	2.0	3.5	pF

Fig.1 Grounded emitter propagation characteristics

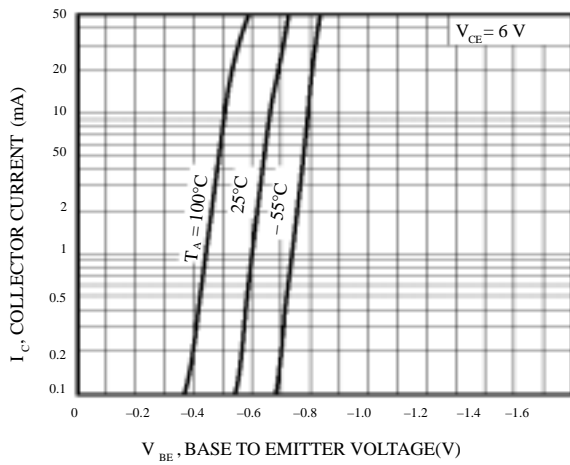


Fig.2 Grounded emitter output characteristics(I)

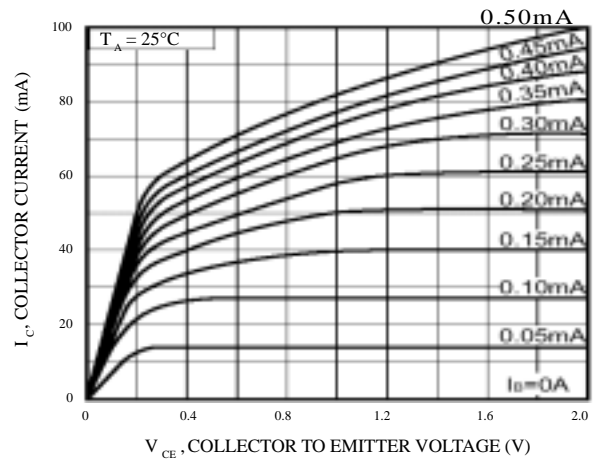


Fig.3 Grounded emitter output characteristics(II)

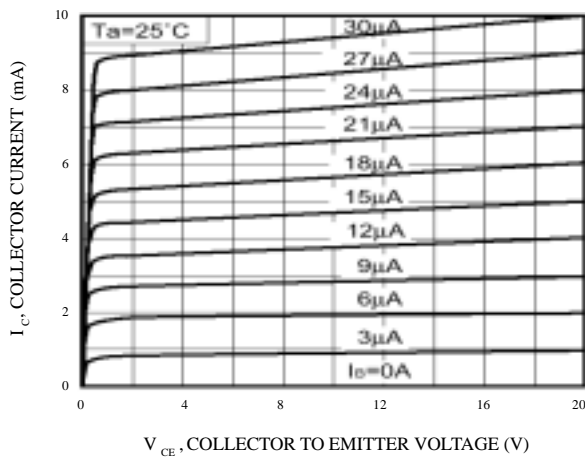


Fig.4 DC current gain vs. collector current (I)

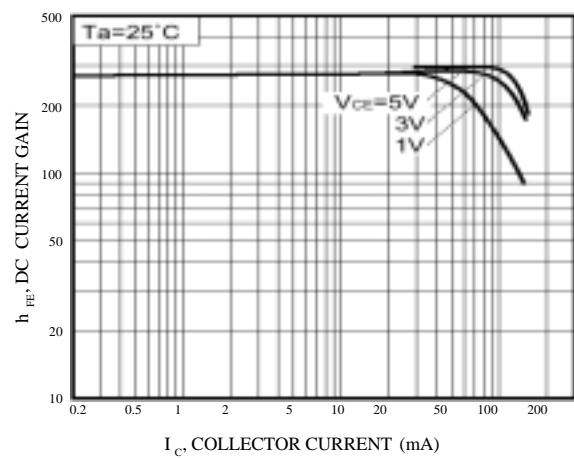


Fig.5 DC current gain vs. collector current (II)

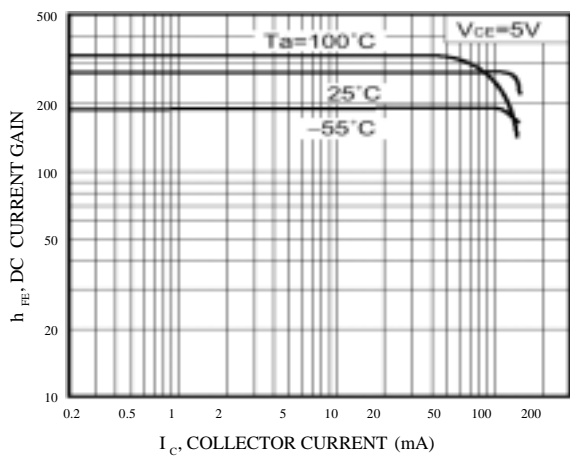


Fig.6 Collector-emitter saturation voltage vs. collector current

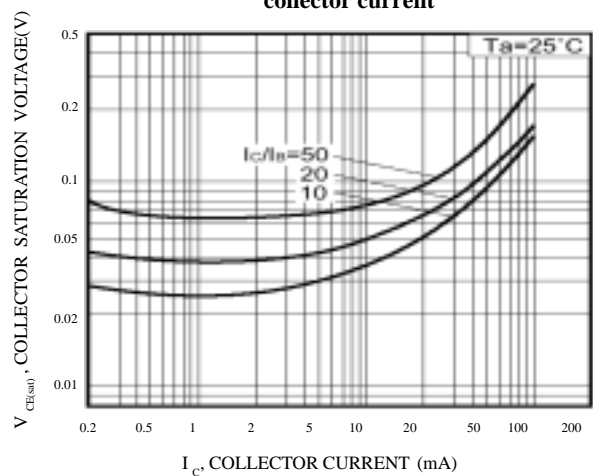


Fig.7 Collector-emitter saturation voltage vs. collector current (I)

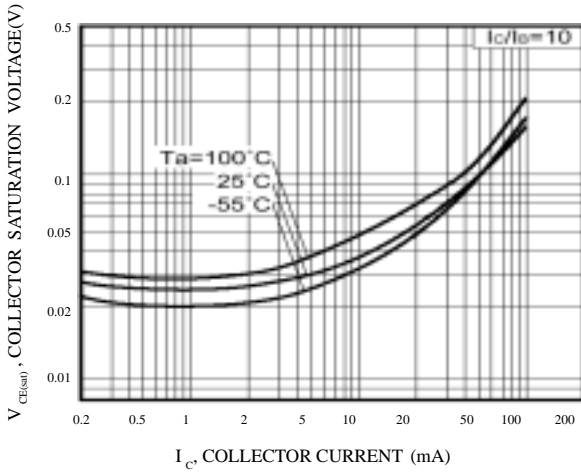


Fig.8 Collector-emitter saturation voltage vs. collector current (II)

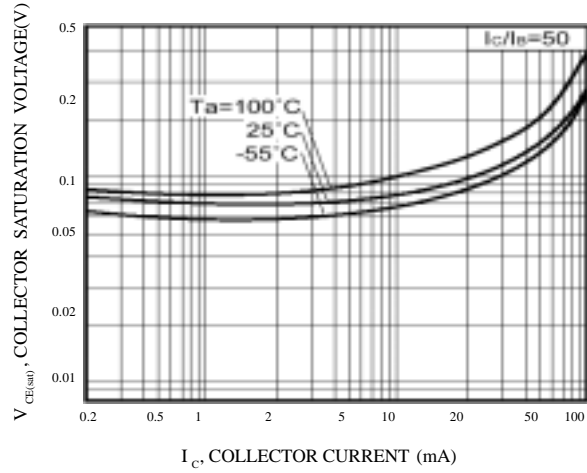
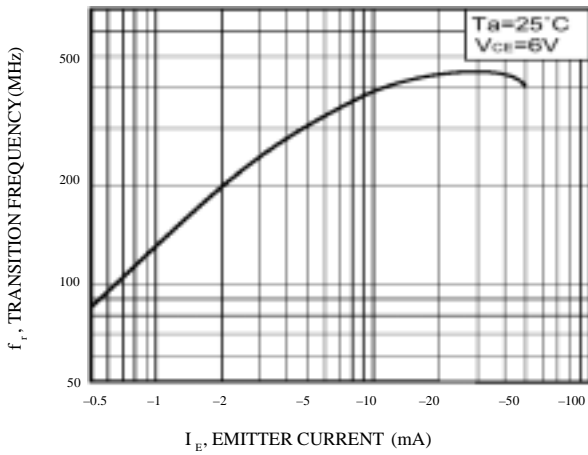


Fig.9 Gain bandwidth product vs. emitter current



**Fig.10 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage**

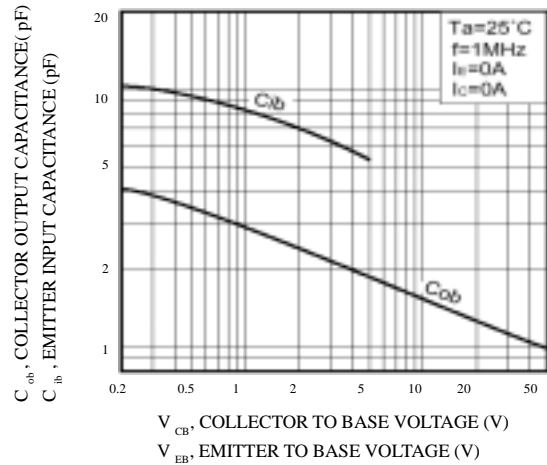
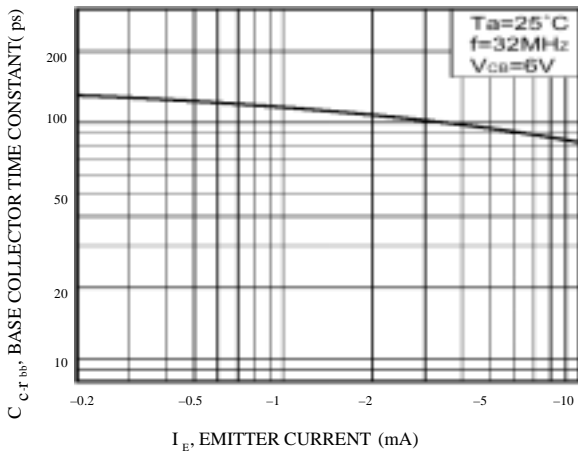


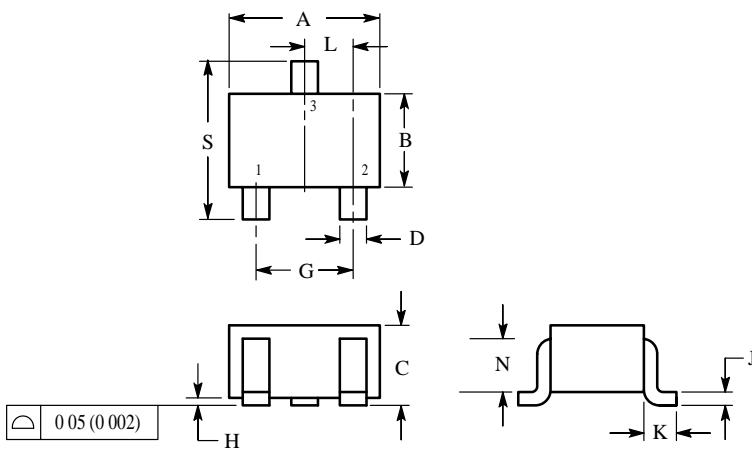
Fig.11 Base-collector time constant vs. emitter current



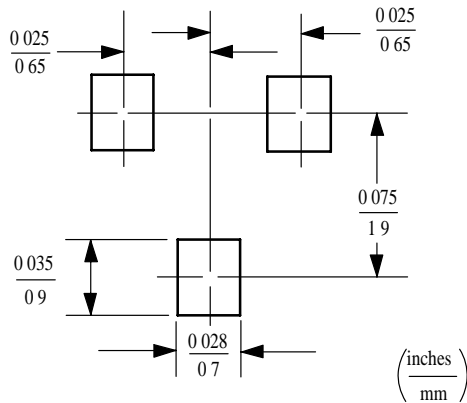
SC-70 / SOT-323

NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

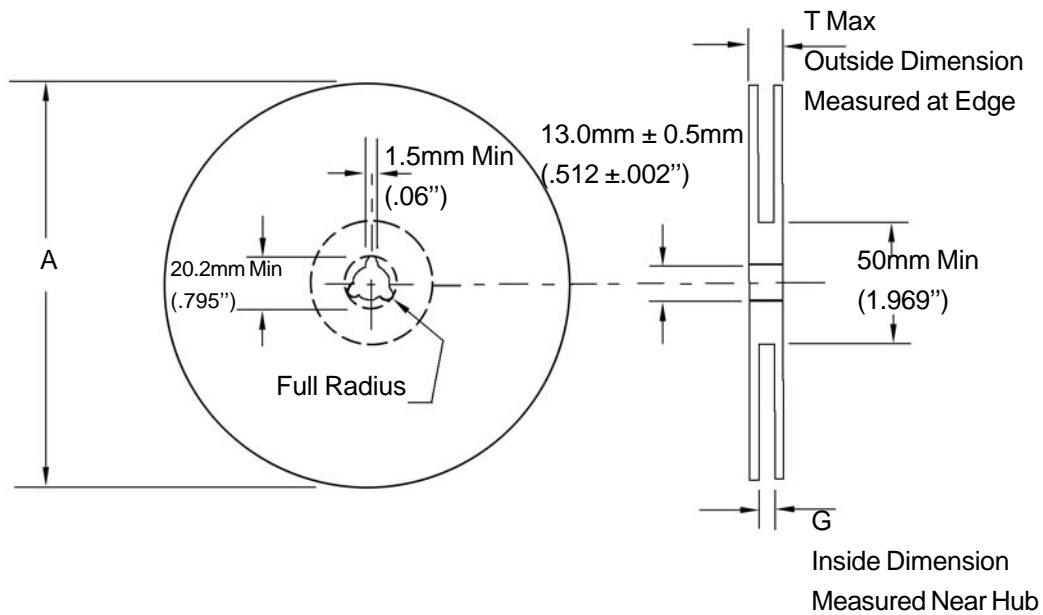


DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.071	0.087	1.80	2.20
B	0.045	0.053	1.15	1.35
C	0.032	0.040	0.80	1.00
D	0.012	0.016	0.30	0.40
G	0.047	0.055	1.20	1.40
H	0.000	0.004	0.00	0.10
J	0.004	0.010	0.10	0.25
K	0.017 REF		0.425 REF	
L	0.026 BSC		0.650 BSC	
N	0.028 REF		0.700 REF	
S	0.079	0.095	2.00	2.40





EMBOSSED TAPE AND REEL DATA FOR DISCRETES



Size	A Max	G	T Max
8 mm	330mm (12.992")	8.4mm+1.5mm, -0.0 (.33"+.059", -0.00)	14.4mm (.56")

Reel Dimensions

Metric Dimensions Govern — English are in parentheses for reference only

Storage Conditions

Temperature: 5 to 40 Deg.C (20 to 30 Deg. C is preferred)

Humidity: 30 to 80 RH (40 to 60 is preferred)

Recommended Period: One year after manufacturing

(This recommended period is for the soldering condition only. The characteristics and reliabilities of the products are not restricted to this limitation)