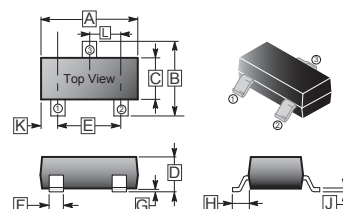


RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

FEATURES

- Low Cob. Cob=2.0pF (Typ.)
- Excellent h_{FE} linearity
- Complementary to 2SA1576A

SOT-323



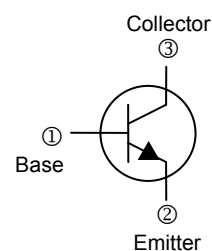
CLASSIFICATION OF h_{FE}

Product-Rank	2SC4081F-Q	2SC4081F-R	2SC4081F-S
Range	120~270	180~390	270~560
Marking	BQ	BR	BS

REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.80	2.20	G	0.100	REF.
B	1.80	2.45	H	0.525	REF.
C	1.15	1.35	J	0.08	0.25
D	0.80	1.10	K	-	-
E	1.20	1.40	L	0.650	TYP.
F	0.20	0.40			

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-323	3K	7' inch



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	7	V
Collector Current	I_C	150	mA
Collector Power Dissipation	P_C	200	mW
Junction & Storage temperature	T_J, T_{STG}	150, -55~150	$^\circ\text{C}$

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	60	-	-	V	$I_C=50\mu\text{A}, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	50	-	-	V	$I_C=1\text{mA}, I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	7	-	-	V	$I_E=50\mu\text{A}, I_C=0$
Collector Cut-Off Current	I_{CBO}	-	-	0.1	μA	$V_{CB}=60\text{V}, I_E=0$
Emitter Cut-off Current	I_{EBO}	-	-	0.1	μA	$V_{EB}=7\text{V}, I_C=0$
DC Current Gain	h_{FE}	120	-	560		$V_{CE}=6\text{V}, I_C=1\text{mA}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	-	-	0.4	V	$I_C=50\text{mA}, I_B=5\text{mA}$
Transition Frequency	f_T	-	180	-	MHz	$V_{CE}=12\text{V}, I_C=2\text{mA}, f=30\text{MHz}$
Collector Output Capacitance	C_{ob}	-	-	3.5	pF	$V_{CB}=12\text{V}, I_E=0, f=1\text{MHz}$

CHARACTERISTIC CURVES

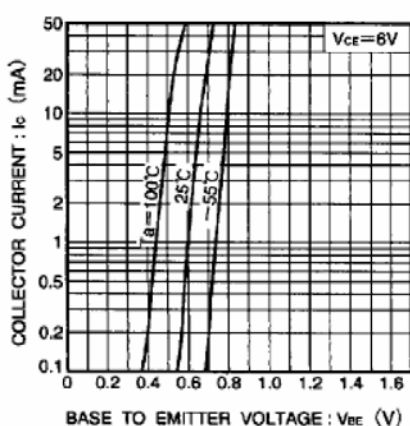


Fig.1 Grounded emitter propagation characteristics

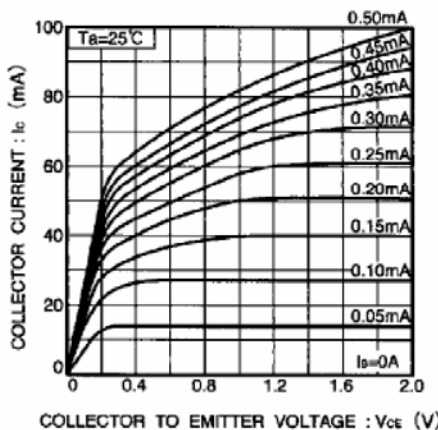


Fig.2 Grounded emitter output characteristics (I)

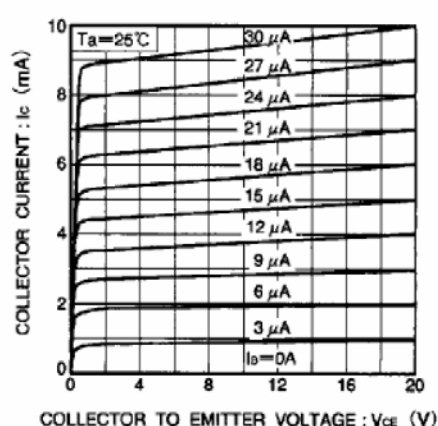


Fig.3 Grounded emitter output characteristics (II)

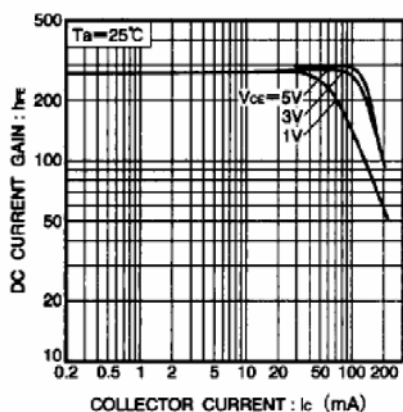


Fig.4 DC current gain vs. collector current (I)

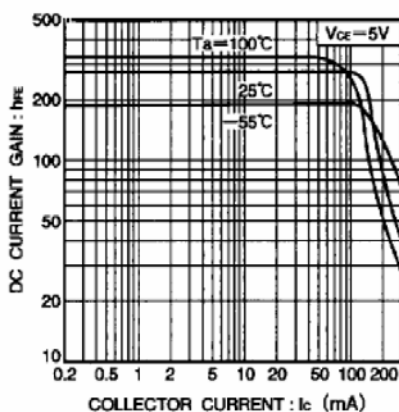


Fig.5 DC current gain vs. collector current (II)

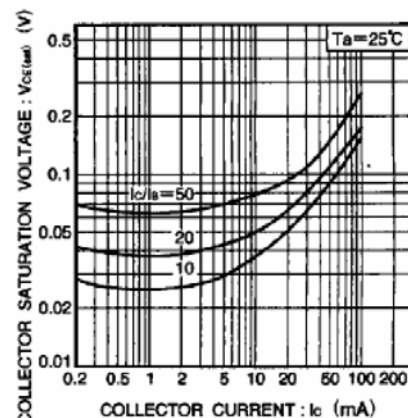


Fig.6 Collector-emitter saturation voltage vs. collector current

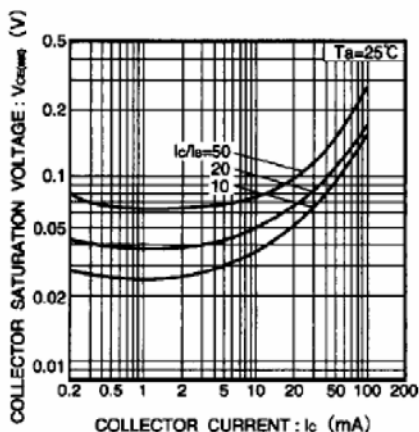


Fig.7 Collector-emitter saturation voltage vs. collector current (I)

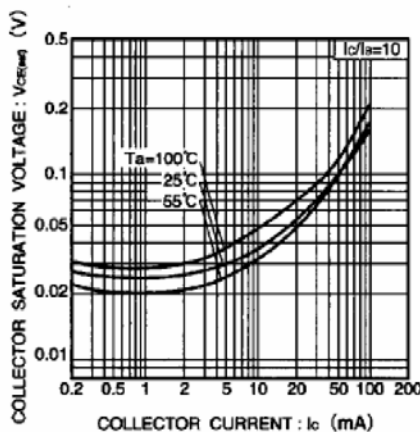


Fig.8 Collector-emitter saturation voltage vs. collector current (II)

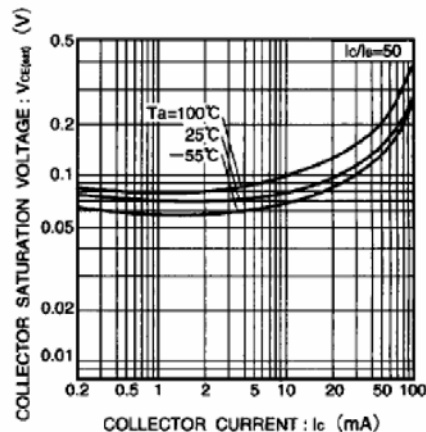


Fig.9 Collector-emitter saturation voltage vs. collector current (III)

CHARACTERISTIC CURVES

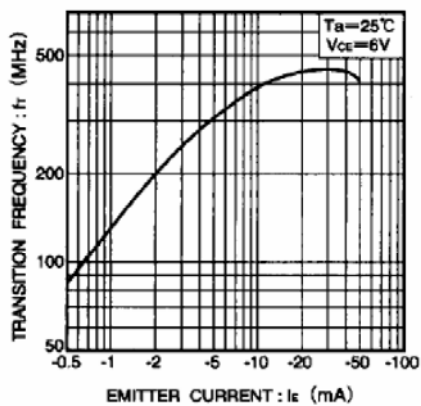


Fig.10 Gain bandwidth product vs. emitter current

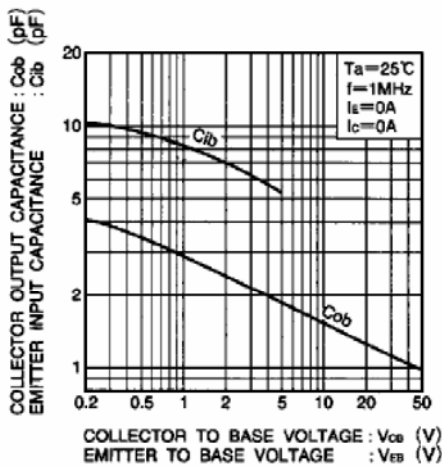


Fig.11 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

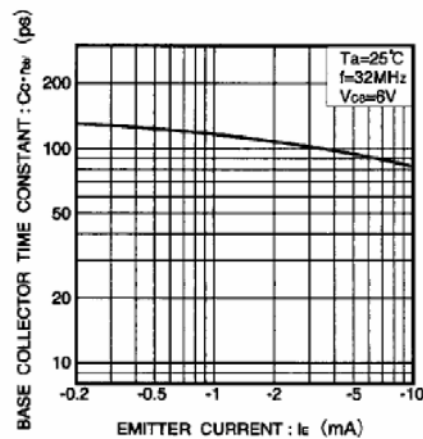


Fig.12 Base-collector time constant vs. emitter current