

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

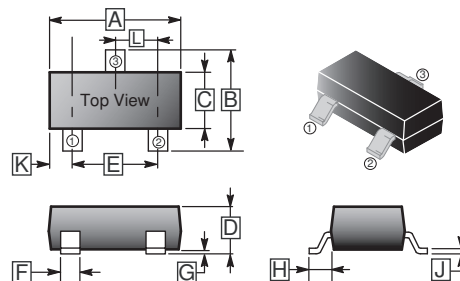
FEATURES

- Complements of the 2SC4097
- Large I_C , MAX=-500mA
- Low $V_{CE(sat)}$. Ideal for low-voltage operation.

CLASSIFICATION OF h_{FE}

Product-Rank	2SA1577-P	2SA1577-Q	2SA1577-R
Range	82~180	120~270	180~390
Marking	HP	HQ	HR

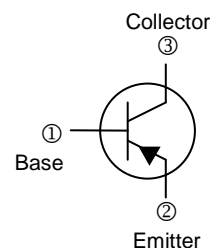
SOT-323



PACKAGE INFORMATION

Package	MPQ	LeaderSize
SOT-323	3K	7' inch

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			



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

Parameter	Symbol	Ratings	Unit
Collector-Base Voltage	$V_{(BR)CBO}$	-40	V
Collector-Emitter Voltage	$V_{(BR)CEO}$	-32	V
Emitter-Base Voltage	$V_{(BR)EBO}$	-5	V
Collector Current	I_C	-500	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	$V_{(BR)CBO}$	-40	-	-	V	$I_C = -100\mu\text{A}, I_E = 0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-32	-	-	V	$I_C = -1\text{mA}, I_B = 0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5	-	-	V	$I_E = -100\mu\text{A}, I_C = 0$
Collector Cut-Off Current	I_{CBO}	-	-	-1	μA	$V_{CB} = -20\text{V}, I_E = 0$
Emitter Cut-off Current	I_{EBO}	-	-	-1	μA	$V_{EB} = -4\text{V}, I_C = 0$
DC Current Gain	h_{FE}	82	-	390		$V_{CE} = -3\text{V}, I_C = -10\text{mA}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	-	-	-0.4	V	$I_C = -100\text{mA}, I_B = -10\text{mA}$
Transition Frequency	f_T	-	200	-	MHz	$V_{CE} = -5\text{V}, I_C = -20\text{mA}, f = 100\text{MHz}$
Collector Output Capacitance	C_{ob}	-	7	-	pF	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$

CHARACTERISTIC CURVES

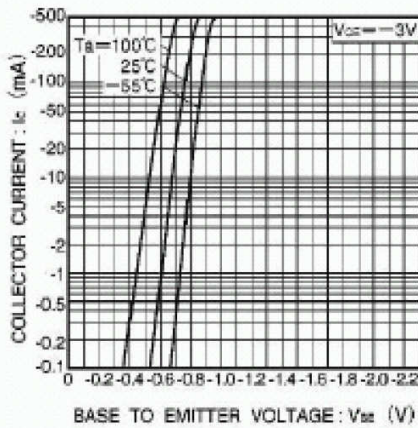


Fig.1 Grounded emitter propagation

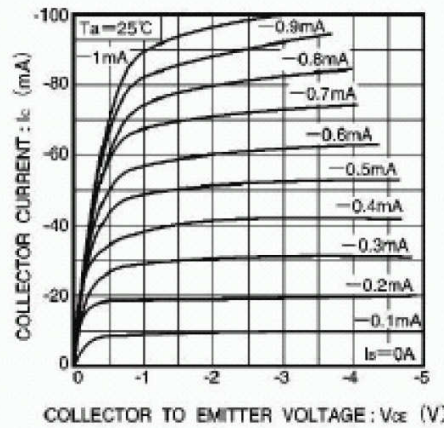


Fig.2 Grounded emitter output characteristics (I)

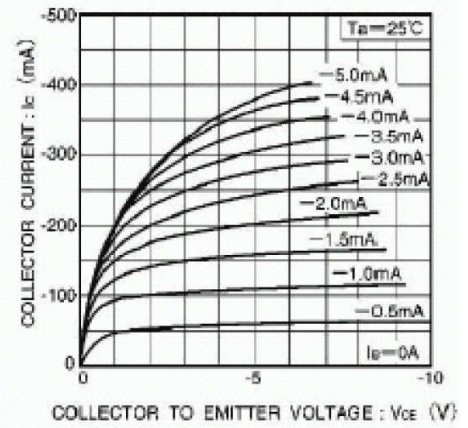


Fig.3 Grounded emitter output characteristics (II)

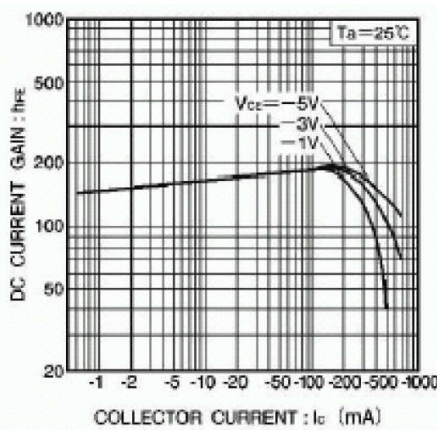


Fig.4 DC current gain vs. collector current (I)

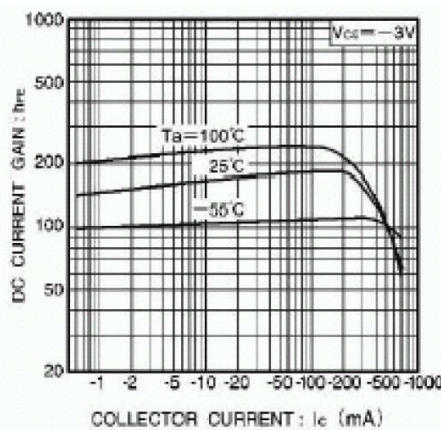


Fig.5 DC current gain vs. collector current (II)

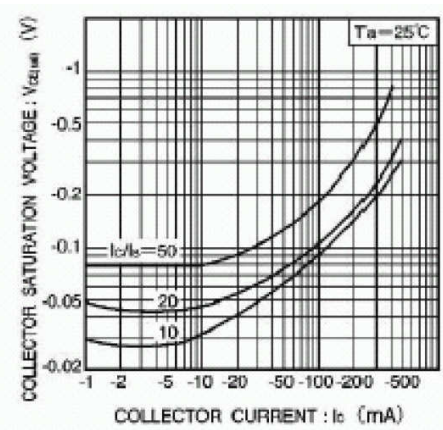


Fig.6 Collector-emitter saturation voltage vs. collector current (I)

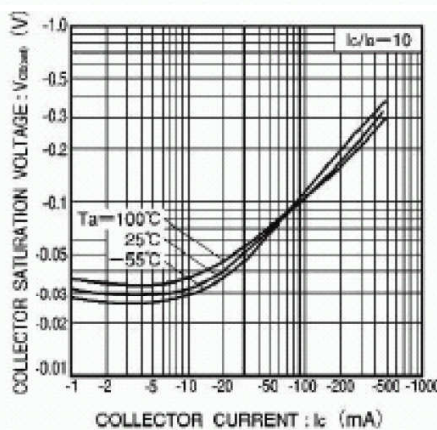


Fig.7 Collector-emitter saturation voltage vs. collector current (II)

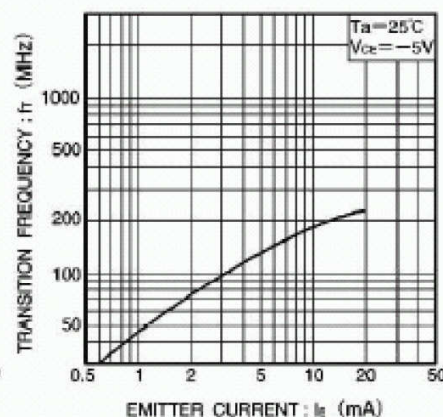


Fig.8 Gain bandwidth product vs. emitter current

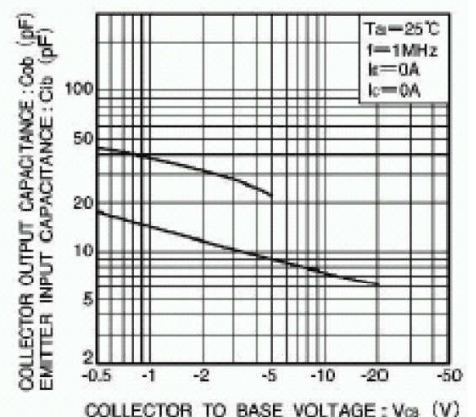


Fig.9 Collector output capacitance vs. collector-base voltage. Emitter input capacitance vs. emitter-base voltage