

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

## DESCRIPTION

The 2SA1576A is designed for use in driver stage of AF amplifier and general purpose amplification.

## FEATURES

- Complements of the 2SC4081
- Excellent  $h_{FE}$  Linearity

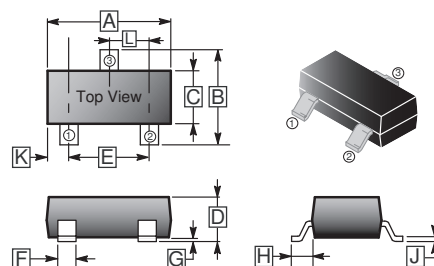
## CLASSIFICATION OF $h_{FE}$

Product-Rank	2SA1576A-Q	2SA1576A-R	2SA1576A-S
Range	120~270	180~390	270~560
Marking	FQ	FR	FS

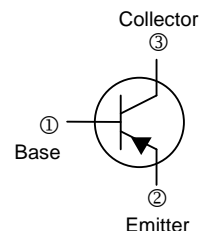
## PACKAGE INFORMATION

Package	MPQ	LeaderSize
SOT-323	3K	7' inch

## SOT-323



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	$V_{CBO}$	-60	V
Collector-Emitter Voltage	$V_{CEO}$	-50	V
Emitter-Base Voltage	$V_{EBO}$	-6	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	$V_{(BR)EBO}$	-6	-	-	V	$I_E = -50\mu\text{A}, I_C = 0$
Collector Cut-Off Current	$I_{CBO}$	-	-	0.1	$\mu\text{A}$	$V_{CB} = -60\text{V}, I_E = 0$
Emitter Cut-off Current	$I_{EBO}$	-	-	0.1	$\mu\text{A}$	$V_{EB} = -6\text{V}, I_C = 0$
DC Current Gain	$h_{FE}$	120	-	560		$V_{CE} = -6\text{V}, I_C = -1\text{mA}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	-	-	-0.5	V	$I_C = -50\text{mA}, I_B = -5\text{mA}$
Transition Frequency	$f_T$	-	140	-	MHz	$V_{CE} = -12\text{V}, I_C = -2\text{mA}, f = 30\text{MHz}$
Collector Output Capacitance	$C_{ob}$	-	4	5	pF	$V_{CB} = -12\text{V}, I_E = 0, f = 1\text{MHz}$

**CHARACTERISTIC CURVES**

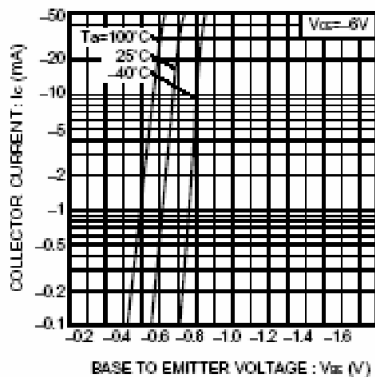


Fig.1 Grounded emitter propagation characteristics

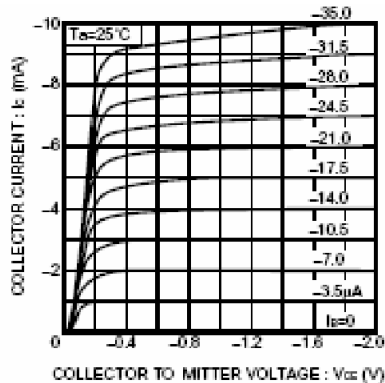


Fig.2 Grounded emitter output characteristics (I)

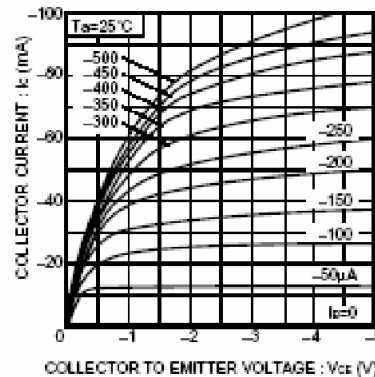


Fig.3 Grounded emitter output characteristics (II)

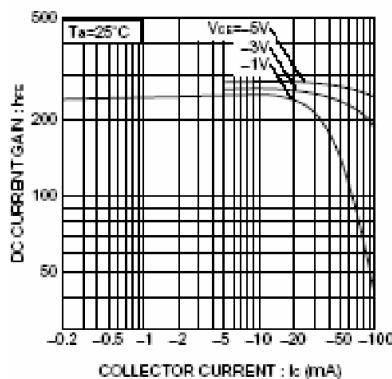


Fig.4 DC current gain vs. collector current (I)

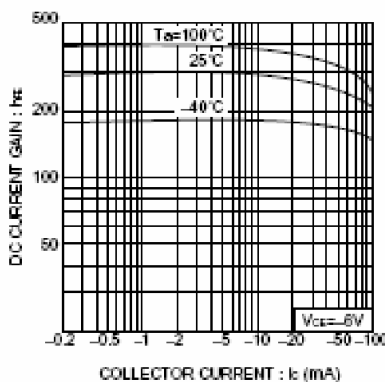


Fig.5 DC current gain vs. collector current (II)

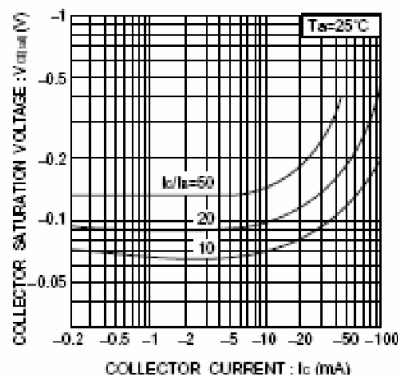


Fig.6 Collector-emitter saturation voltage vs. collector current (I)

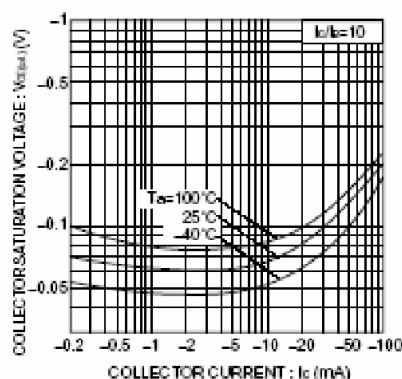


Fig.7 Collector-emitter saturation voltage vs. collector current (II)

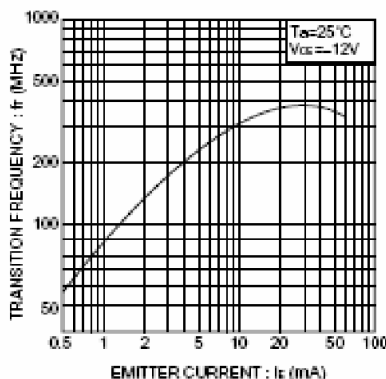


Fig.8 Gain bandwidth product vs. emitter current

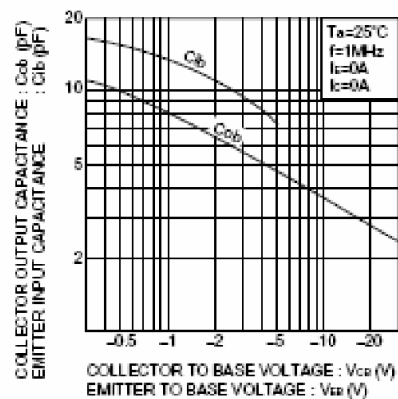


Fig.9 Collector output capacitance vs. collector-base voltage  
Emitter input capacitance vs. emitter-base voltage