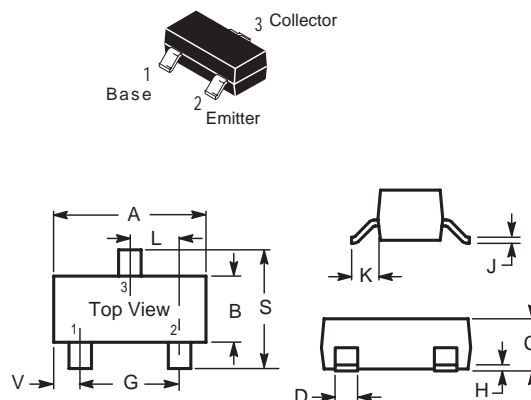


RoHS Compliant Product
A suffix of "-C" specifies halogen and lead free

FEATURES

- Low $V_{CE(sat)}$, $V_{CE(sat)} < -0.5V (I_C / I_B = -0.5A / -50mA)$.
- $I_C = -0.8A$.
- Complements the 2SD1781.

PACKAGE DIMENSIONS



SOT-23		
Dim	Min	Max
A	2.800	3.040
B	1.200	1.400
C	0.890	1.110
D	0.370	0.500
G	1.780	2.040
H	0.013	0.100
J	0.085	0.177
K	0.450	0.600
L	0.890	1.020
S	2.100	2.500
V	0.450	0.600
All Dimension in mm		

ABSOLUTE MAXIMUM RATINGS at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Ratings	Unit
Collector to Base Voltage	V_{CBO}	-40	V
Collector to Emitter Voltage	V_{CEO}	-32	V
Emitter to Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-800	mA
Total Power Dissipation	P_c	200	mW
Junction, Storage Temperature	T_J, T_{STG}	+150, -55 ~ +150	$^\circ\text{C}$

CHARACTERISTICS at $T_a = 25^\circ\text{C}$

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	-40	-	-	V	$I_C = -50\mu\text{A}, I_E = 0$
BV_{CEO}	-32	-	-	V	$I_C = -1\text{mA}, I_B = 0$
BV_{EBO}	-5	-	-	V	$I_E = -50\mu\text{A}, I_C = 0$
I_{CBO}	-	-	-0.5	μA	$V_{CB} = -20\text{V}, I_E = 0$
I_{EBO}	-	-	-0.5	μA	$V_{EB} = -4\text{V}, I_C = 0$
$V_{CE(sat)}$	-	-	-0.5	V	$I_C = -500\text{mA}, I_B = -50\text{mA}$
h_{FE}	82	-	390		$V_{CE} = -3\text{V}, I_C = -100\text{mA}$
fT	50	200	-	MHz	$V_{CE} = -5\text{V}, I_C = -50\text{mA}, f = 100\text{MHz}$
C_{OB}	-	12	30	pF	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$

CLASSIFICATION OF h_{FE1}

Rank	P	Q	R
Range	82 - 180	120 - 270	180 - 390
Marking	AHP	AHQ	AHR

CHARACTERISTIC CURVES

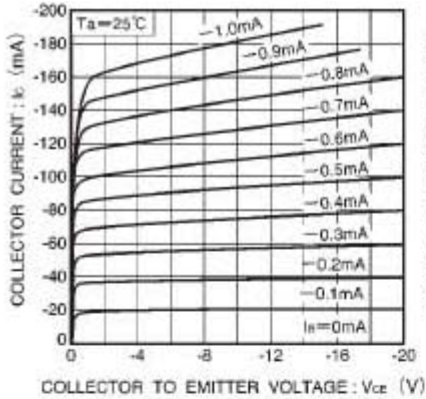


Fig.2 Grounded emitter output characteristics (I)

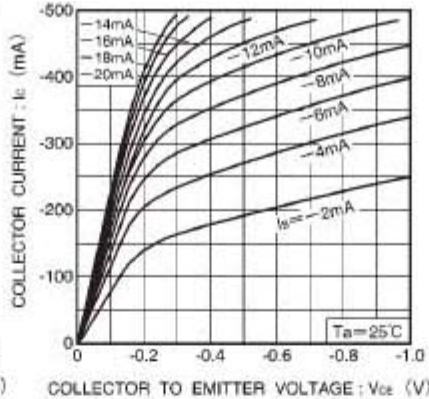


Fig.3 Grounded emitter output characteristics (II)

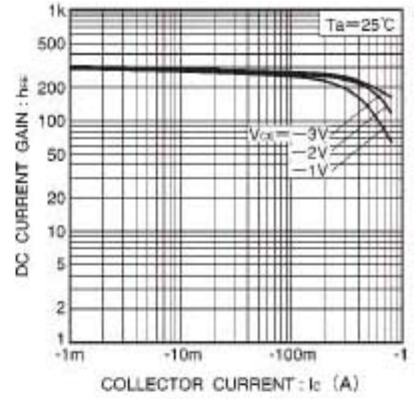


Fig.4 DC current gain vs. collector current

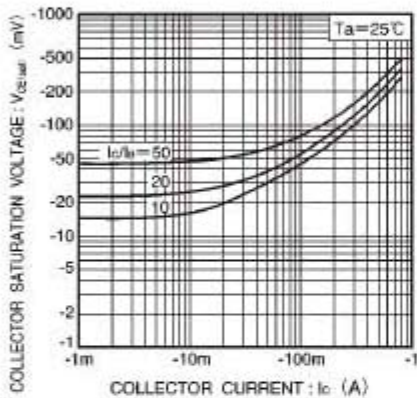


Fig.5 Collector-emitter saturation voltage vs. collector current

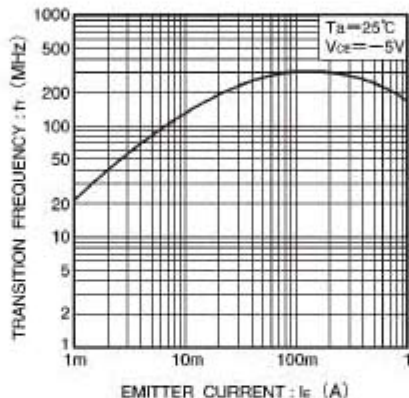


Fig.6 Gain bandwidth product vs. emitter current

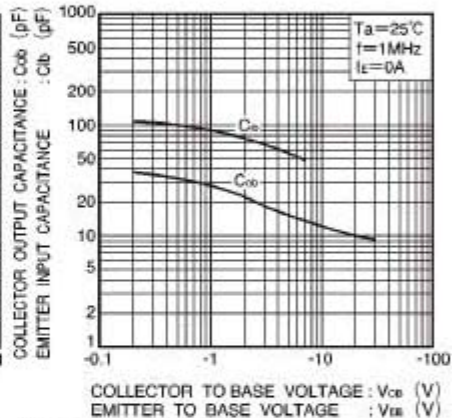


Fig.7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

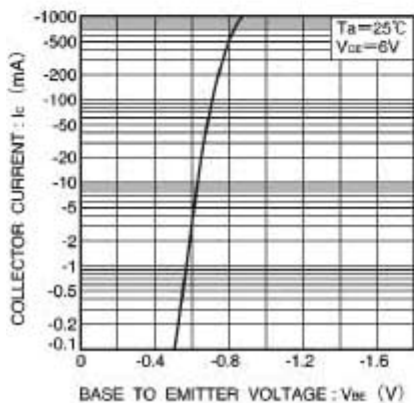


Fig.1 Grounded emitter propagation characteristics