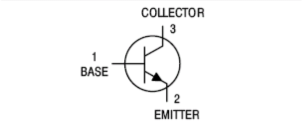
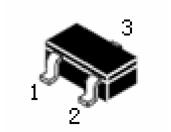
Silicon Epitaxial Planar Transistor **2SC4081**

FEATURES

- Excellent h_{FE} linearity.
- Complements the 2A1576A

Lead-free





SOT-323

APPLICATIONS

- NPN Silicon Epitaxial Planar Transistor.

ORDERING INFORMATION

Type No.	Marking	Package Code
2SC4081	BQ/BR/BS	SOT-323

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	150	mA
P_C	Collector Dissipation	200	mW
T_j, T_{stg}	Junction and Storage Temperature	-55~150	℃

ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

Parameter	**Symbol**	**Test conditions**	**MIN**	**TYP**	**MAX**	**UNIT**
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=50μA,I_E=0	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA,I_B=0	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=50μA,I_C=0	6			V
Collector cut-off current	I_{CBO}	V_{CB}=60V,I_E=0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=6V,I_C=0			0.1	μA
DC current gain	h_{FE}	V_{CE}=6V,I_C=1mA	120		560	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_{CE}=50mA,I_B=5mA			0.4	V
Transition frequency	f_T	V_{CE}=12V, I_C= 2mA,f=30MHz		180		GHz
Collector output capacitance	C_{ob}	V_{CB}=12V,I_E=0,f=1MHz			3.5	pF

CLASSIFICATION OF h_{FE}

Rank	Q	R	S
Range	120-270	180-390	270-560
Marking	BQ	BR	BS

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

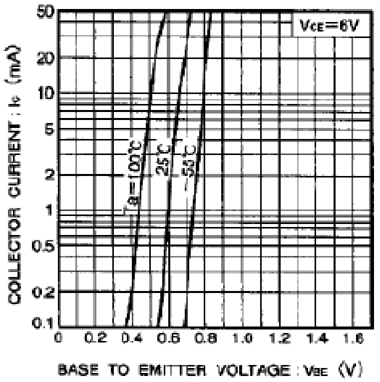


Fig.1 Grounded emitter propagation characteristics

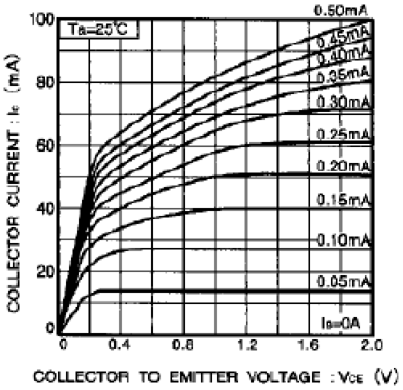


Fig.2 Grounded emitter output characteristics (I)

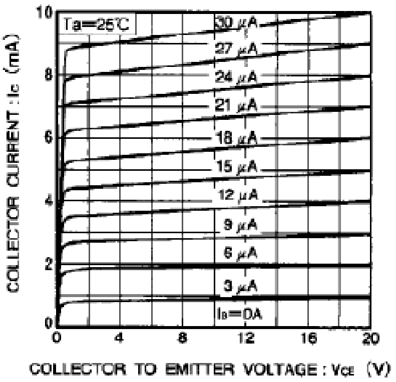


Fig.3 Grounded emitter output characteristics (II)

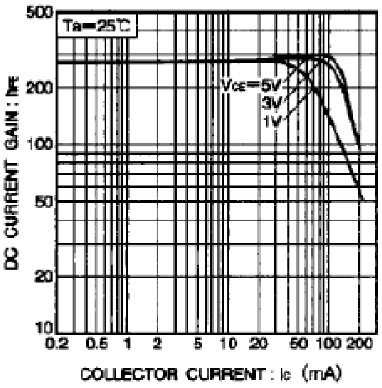


Fig.4 DC current gain vs. collector current (I)

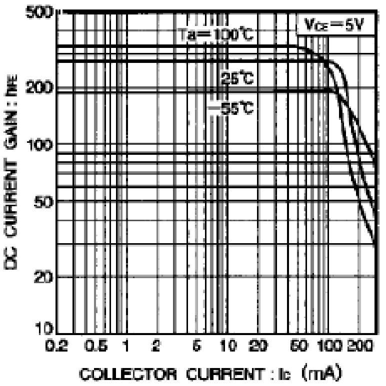


Fig.5 DC current gain vs. collector current (II)

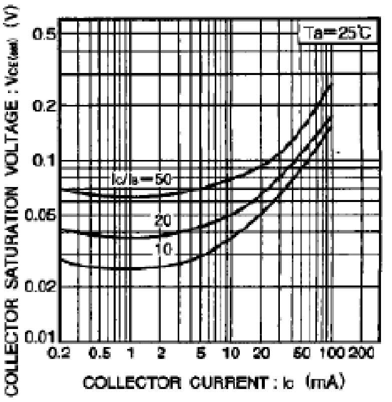


Fig.6 Collector-emitter saturation voltage vs. collector current

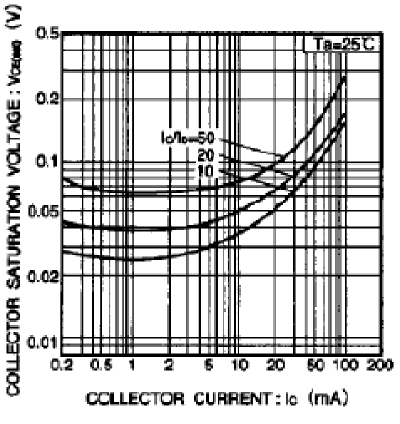


Fig. 7 Collector-emitter saturation voltage vs. collector current (I)

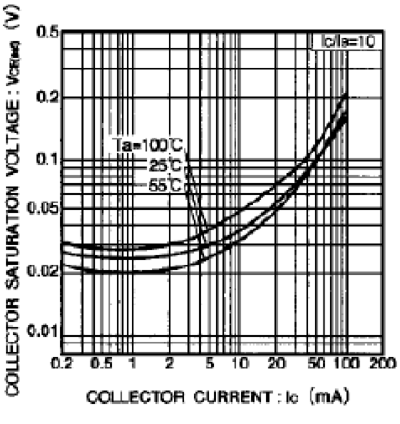


Fig.8 Collector-emitter saturation voltage vs. collector current (II)

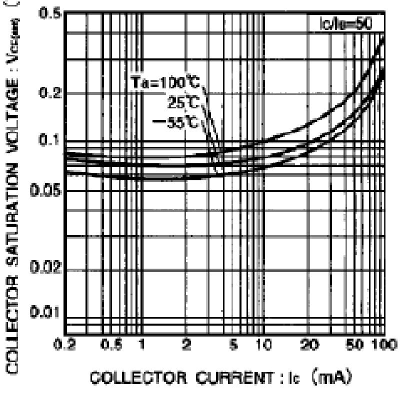
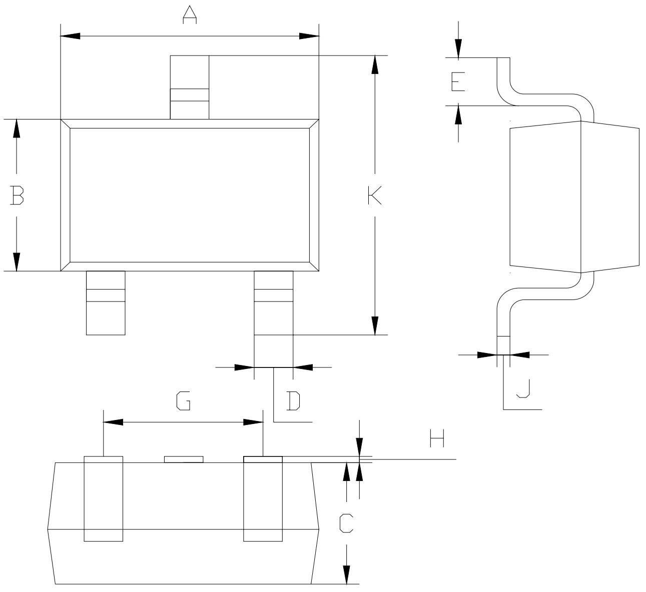


Fig. 9 Collector-emitter saturation voltage vs. collector current (III)

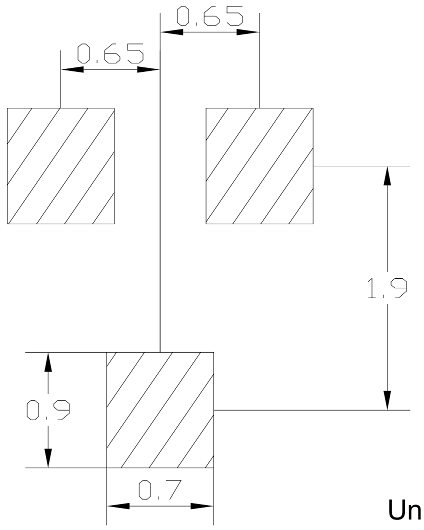
PACKAGE OUTLINE

Plastic surface mounted package SOT-323



SOT-323		
Dim	Min	Max
A	1.8	2.2
B	1.15	1.35
C	1.0Typical	
D	0.15	0.35
E	0.25	0.40
G	1.2	1.4
H	0.02	0.1
J	0.1Typical	
K	2.1	2.3
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
2SC4081	SOT-323	3000/Tape&Reel