



Micro Commercial Components



Micro Commercial Components
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2SC4081-A
2SC4081-B
2SC4081-C

Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Low Cob . Cob=2.0pF(Typ)
- Complementary to 2SC1576A
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Halogen free available upon request by adding suffix "-HF"

Maximum Ratings

Symbol	Rating	Rating	Unit
V_{CEO}	Collector-Emitter Voltage	50	V
V_{CBO}	Collector-Base Voltage	60	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current	150	mA
P_C	Collector power dissipation	200	mW
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-55 to +150	°C

Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Typ	Max	Units
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OFF CHARACTERISTICS

I_{CBO}	Collector Cutoff Current ($V_{CB}=-60Vdc$)	---	---	100	nAdc
I_{EBO}	Emitter Cutoff Current ($V_{EB}=-6.0Vdc$)	---	---	100	nAdc

ON CHARACTERISTICS

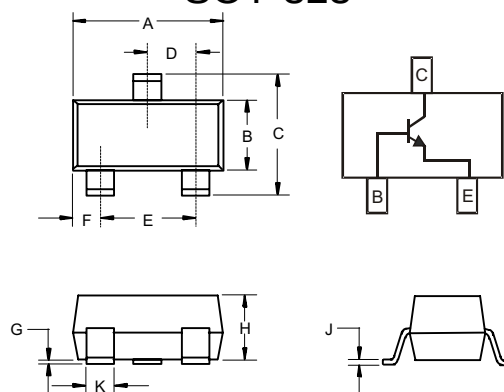
BV_{CBO}	Collector-base breakdown voltage ($I_C=-50\mu Adc$)	60	---	---	Vdc
BV_{CEO}	Collector-emitter breakdown voltage ($I_C=-1\mu Adc$)	50	---	---	Vdc
BV_{EBO}	Emitter-base breakdown voltage ($I_E=-50\mu Adc$)	6	---	---	Vdc
h_{FE}	DC Current Gain ($I_C=-1mA$, $V_{CE}=-6.0Vdc$)	120	---	560	---
$V_{CE(sat)}$	Collector Saturation Voltage* ($I_C=-50mA$, $I_B=-5.0mA$)	---	---	0.4	Vdc
C_{ob}	Output Capacitance ($V_{CB}=-12.0Vdc$, $I_E=0$, $f=1.0MHz$)	---	2.0	3.5	pF
f_T	Gain Bandwidth product ($V_{CE}=-12Vdc$, $I_E=2mA$, $f=30MHz$)	---	180	---	MHz

h_{FE} CLASSIFICATION

Rank	A	B	C
Marking	BQ	BR	BS
h_{FE}	120~270	180~390	270~560

NPN Silicon Epitaxial Transistors

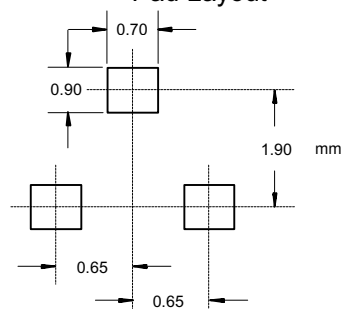
SOT-323



DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.071	.087	1.80	2.20	
B	.045	.053	1.15	1.35	
C	.079	.087	2.00	2.20	
D	.026 Nominal		0.65 Nominal		
E	.047	.055	1.20	1.40	
F	.012	.016	.30	.40	
G	.000	.004	.000	.100	
H	.035	.039	.90	1.00	
J	.004	.010	.100	.250	
K	.012	.016	.30	.40	

Suggested Solder Pad Layout



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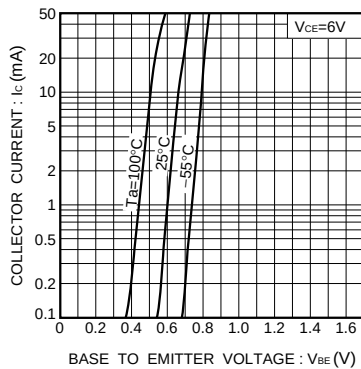


Fig.1 Grounded emitter propagation characteristics

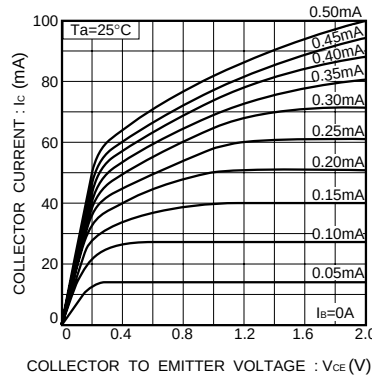


Fig.2 Grounded emitter output characteristics (I)

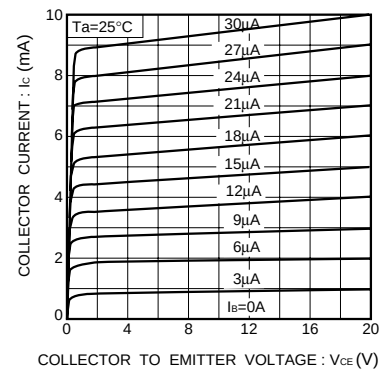


Fig.3 Grounded emitter output characteristics (II)

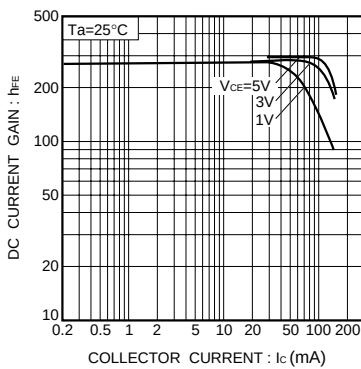


Fig.4 DC current gain vs. collector current (I)

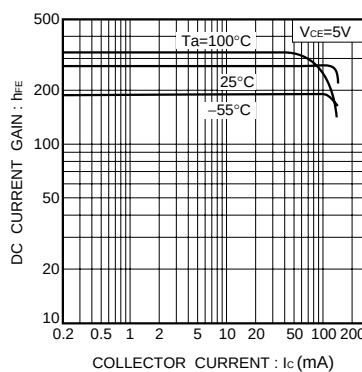


Fig.5 DC current gain vs. collector current (II)

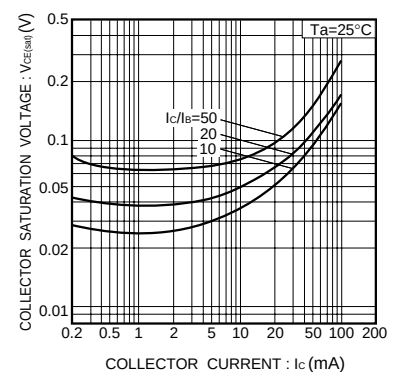


Fig.6 Collector-emitter saturation voltage vs. collector current

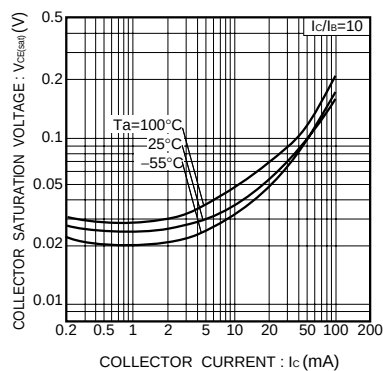


Fig.7 Collector-emitter saturation voltage vs. collector current (I)

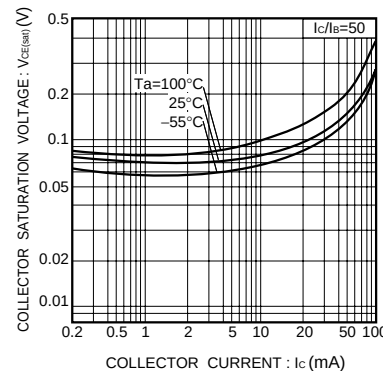


Fig.8 Collector-emitter saturation voltage vs. collector current (II)

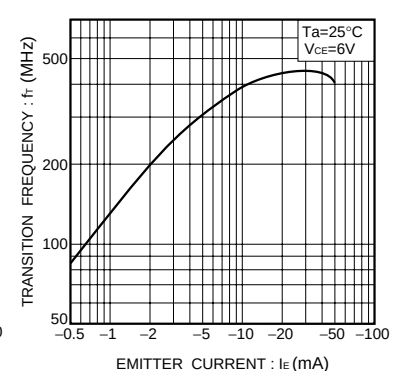


Fig.9 Gain bandwidth product vs. emitter current

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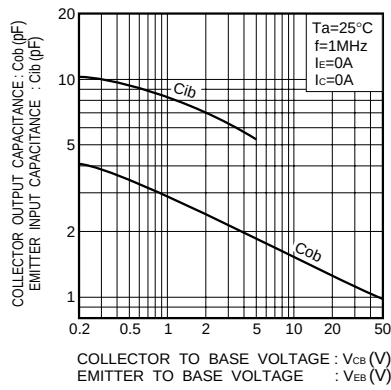


Fig.10 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

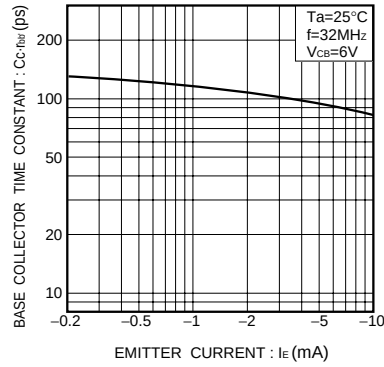


Fig.11 Base-collector time constant vs. emitter current

Ordering Information :

Device	Packing
Part Number-TP	Tape & Reel; 3 Kpcs / Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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