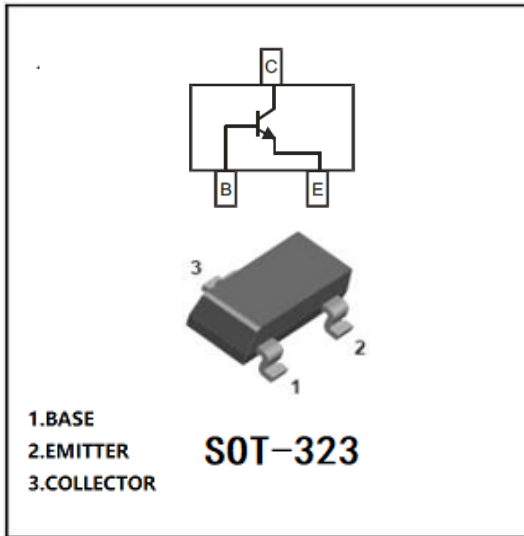


NPN General Purpose Amplifier



Features

- Epoxy meets UL-94 V-0 flammability rating
- Halogen free available upon request by adding suffix "HF"
- Moisture Sensitivity Level 1
- High Conductance
- Surface Mount Package Ideally Suited for Automatic Insertion

Mechanical Data

- **Package:** SOT-323
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:**

2SC4081-Q	BQ
2SC4081-R	BR
2SC4081-S	BS

■Maximum Ratings (Ta=25°C unless otherwise noted)

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

■Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
2SC4081	F2	Approximate 0.005	3000	30000	120000	7" reel



2SC4081

RoHS
COMPLIANT

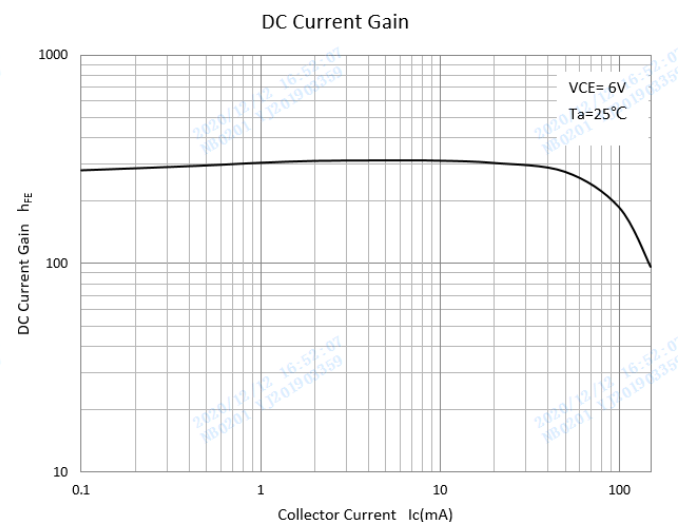
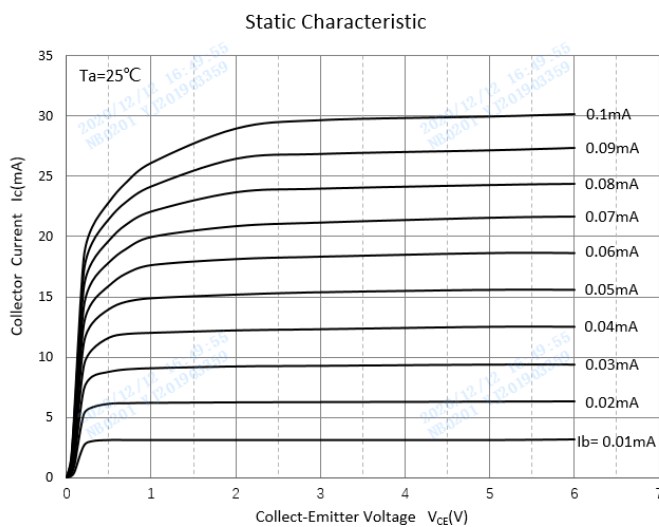
■Electrical Characteristics (Ta=25°C Unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	TYP	Max
Collector-base breakdown voltage	V_{CBO}	V	$I_C=50\mu A, I_E=0$	60		
Collector-emitter breakdown voltage	V_{CEO}	V	$I_C=1mA, I_B=0$	50		
Emitter-base breakdown voltage	V_{EBO}	V	$I_E=50\mu A, I_C=0$	7		
Collector-base cut-off current	I_{CBO}	μA	$V_{CB}=60V, I_E=0$			0.1
Emitter-base cut-off current	I_{EBO}	μA	$V_{EB}=7V, I_C=0$			0.1
DC current gain	h_{FE}		$V_{CE}=6V, I_C=1mA$	120		560
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	$I_C=50mA, I_B=5mA$			0.4
Output Capacitance	C_{ob}	pF	$V_{CB}=12V, I_E=0, f=1MHz$		3	
Transition frequency	f_T	MHz	$V_{CE}=12V, I_C=2mA, f=30MHz$		180	

■ Classification of h_{FE}

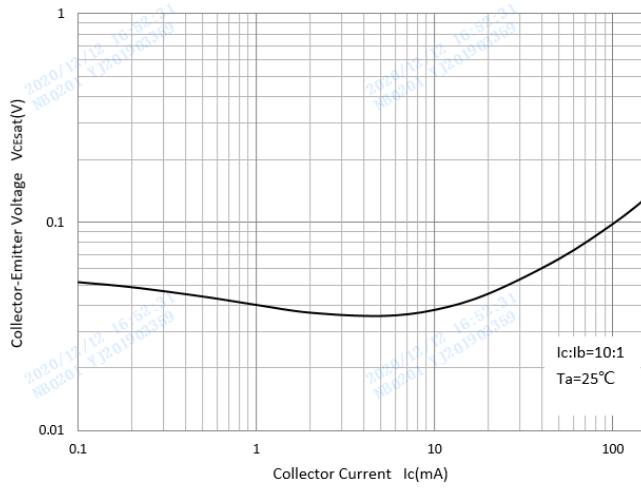
Rank	2SC4081-Q	2SC4081-R	2SC4081-S
Range	120-270	180-390	270-560

■Characteristics(Typical)

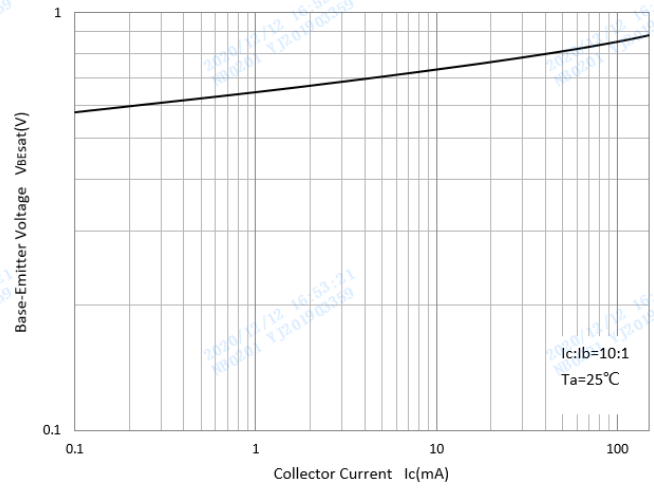




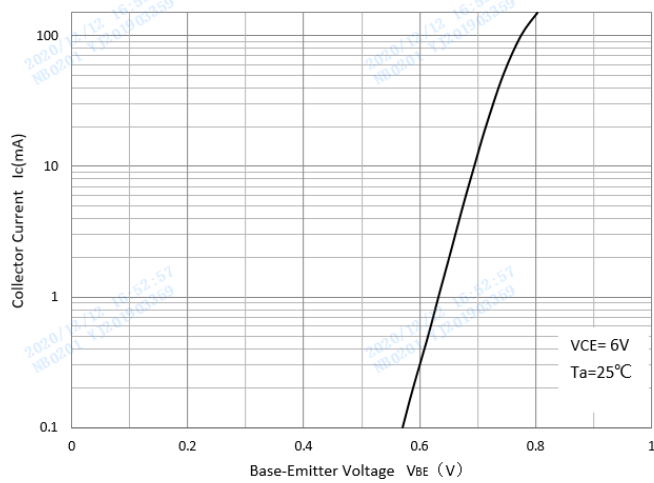
Collector-Emitter Saturation Voltage



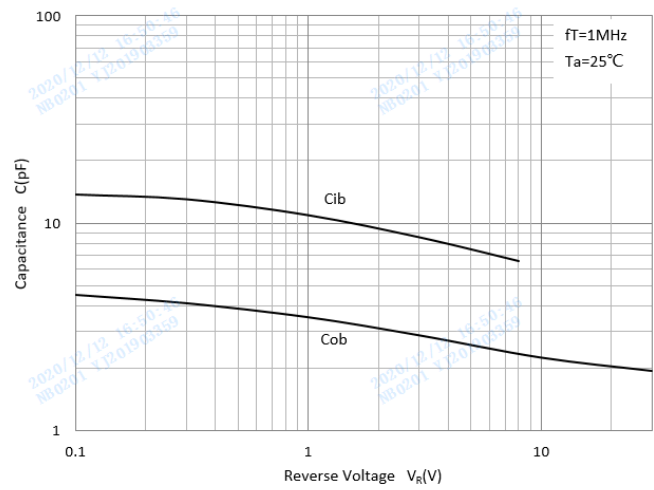
Base-Emitter Saturation Voltage



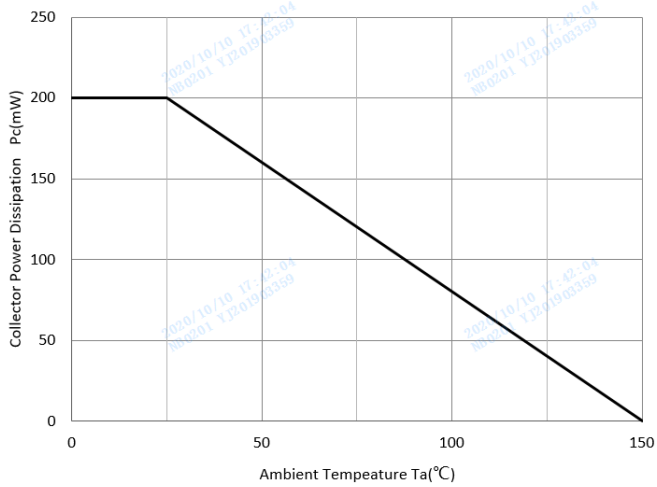
Base-Emitter On Voltage



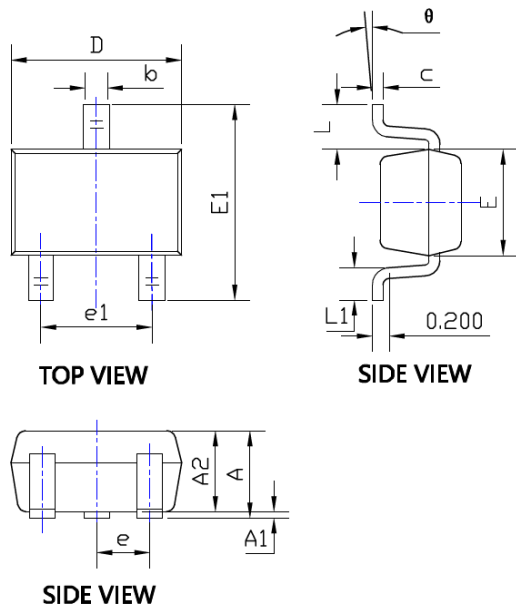
$C_{ob}/C_{ib}-V_{CB}/V_{EB}$



Collector Power Derating Curve



■ SOT-323 Package Outline Dimensions

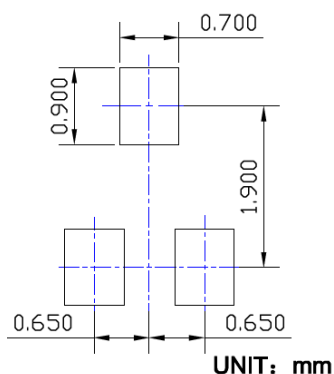


SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.043	0.900	1.100
A1	0.000	0.004	0.000	0.100
A2	0.035	0.039	0.900	1.000
b	0.006	0.016	0.150	0.400
c	0.004	0.010	0.100	0.250
D	0.071	0.087	1.800	2.200
E	0.045	0.053	1.150	1.350
E1	0.085	0.096	2.150	2.450
e	0.026TYP		0.650TYP	
e1	0.047	0.055	1.200	1.400
L	0.021REF		0.525REF	
L1	0.010	0.018	0.260	0.460
θ	0°	8°	0°	8°

Note:

- All dimensions are in millimeters (mm) unless otherwise specified.
[所有尺寸均以毫米为单位，除非另有说明]
- General tolerances: $\pm 0.10\text{mm}$ unless otherwise specified.
[通用公差为 $\pm 0.10\text{mm}$ ，除非另有说明]
- Dimensions and tolerances per ASME Y14.5M-2018.
[尺寸和公差遵循 ASME Y14.5M-2018 标准]
- All dimensions shown are exclusive of burrs and gate residues.
Burrs and gate vestiges shall not exceed 0.15 mm in maximum.
[所有尺寸均不包括毛刺和浇口残留。毛刺与浇口残留的尺寸最大不得超过 0.15mm]
- Dimension b does not include dambar protrusion of max 0.100 mm per side.
[尺寸b不包括单边最大0.100 MM的中筋凸出部分]
- Dimensions D and E are the overall extreme outer dimensions of the mold compound. These dimensions exclude mold flash, lead flash, protrusions and burrs but include the maximum allowable mold mismatch.
[D和E是塑封体的外部极限尺寸，不包括包封溢料、内引线溢料、凸出部分以及胶体毛刺，但是包含了包封错位的最大尺寸]
- Formed leads shall be planar with respect to one another within a maximum of 0.076 mm relative to the seating plane.
[成型的管脚应为同一平面，共面性最大为0.1mm]

■ SOT-323 Soldering Footprint





Disclaimer

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