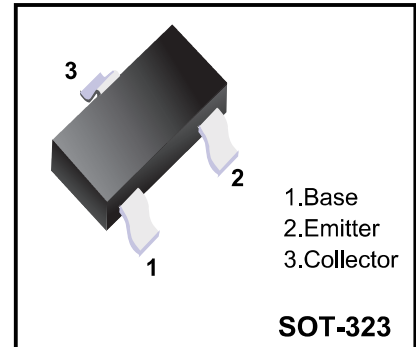


■ NPN Transistor

■ Features

- Low Cob. Cob=2.0pF (Typ.)
- Complementary to 2SA1576A



■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V <sub>CB0</sub>	60	V
Collector - Emitter Voltage	V <sub>CEO</sub>	50	
Emitter - Base Voltage	V <sub>EBO</sub>	7	
Collector Current - Continuous	I <sub>c</sub>	150	mA
Collector Power Dissipation	P <sub>C</sub>	200	mW
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-55 to 150	

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V <sub>CB0</sub>	I <sub>c</sub> = 100 μA, I <sub>E</sub> = 0	60			V
Collector- emitter breakdown voltage	V <sub>CEO</sub>	I <sub>c</sub> = 1 mA, I <sub>B</sub> = 0	50			
Emitter - base breakdown voltage	V <sub>EBO</sub>	I <sub>E</sub> = 100 μA, I <sub>c</sub> = 0	7			
Collector-base cut-off current	I <sub>CB0</sub>	V <sub>CB</sub> = 60V, I <sub>E</sub> = 0			0.1	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = 7V, I <sub>c</sub> =0			0.1	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>c</sub> =50 mA, I <sub>B</sub> =5mA			0.4	V
Base - emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>c</sub> =50 mA, I <sub>B</sub> =5mA			1.2	
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> = 6V, I <sub>c</sub> = 1mA	120		560	
Collector output capacitance	C <sub>ob</sub>	V <sub>CE</sub> = 12V, I <sub>E</sub> =0, f=1MHz		2	3.5	pF
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = 12V, I <sub>E</sub> =-2mA, f=100 MHz		180		MHz

■ Classification of h<sub>FE</sub>

Type	2SC4081-Q	2SC4081-R	2SC4081-S
Range	120-270	180-390	270-560
Marking	BQ	BR	BS

■ Typical Characteristics

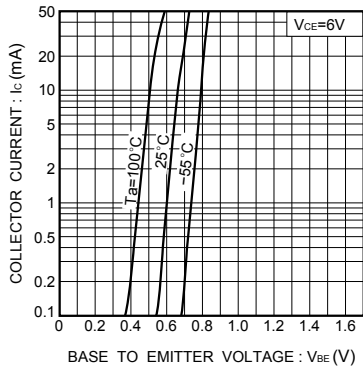


Fig.1 Grounded emitter propagation characteristics

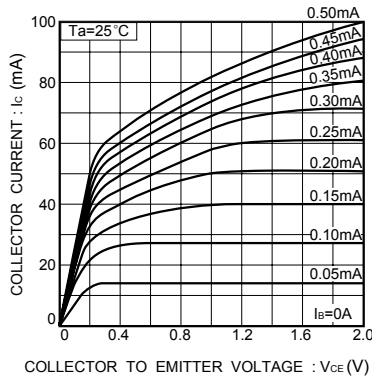


Fig.2 Grounded emitter output characteristics ( I )

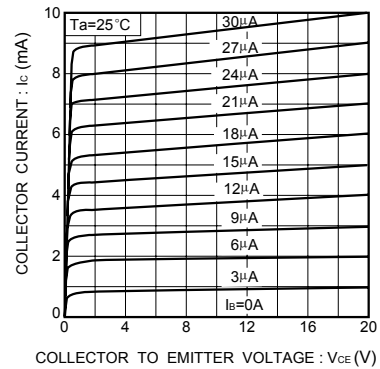


Fig.3 Grounded emitter output characteristics ( I )I

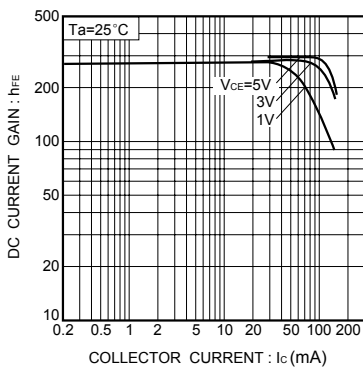


Fig.4 DC current gain vs. collector current ( I )

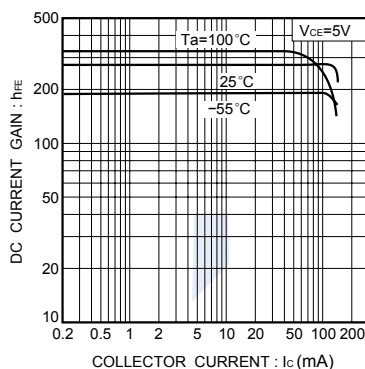


Fig.5 DC current gain vs. collector current ( I )I

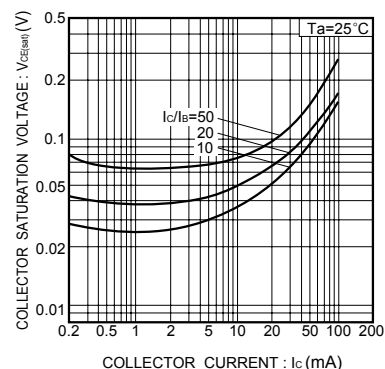


Fig.6 Collector-emitter saturation voltage vs. collector current

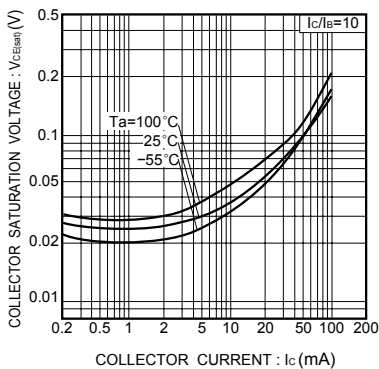


Fig.7 Collector-emitter saturation voltage vs. collector current ( I )

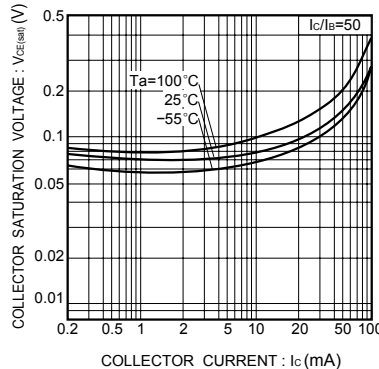


Fig.8 Collector-emitter saturation voltage vs. collector current ( I )I

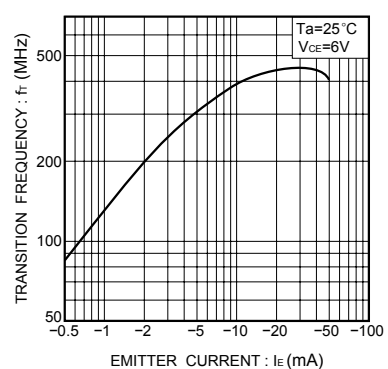


Fig.9 Gain bandwidth product vs. emitter current

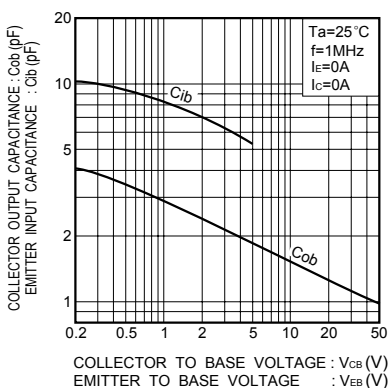


Fig.10 Collector output capacitance vs. collector-base voltage  
Emitter input capacitance vs. emitter-base voltage

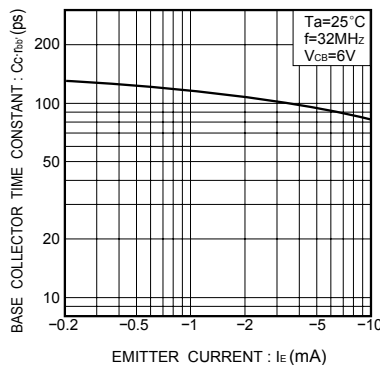


Fig.11 Base-collector time constant vs. emitter current

**Ordering information**

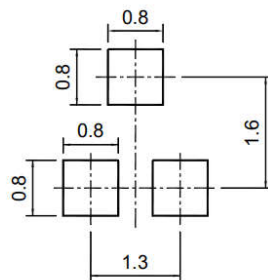
Package	Packing Description	Base Quantity	Packing Quantity
SOT-323	Tape/Reel, 7" reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

**Package Dimensions**

**SOT-323**

Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	0.8	1.1	32	43
A1	0.1		4	
bp	0.3	0.4	12	16
C	0.10	0.25	4	10
D	1.8	2.2	71	87
E	1.15	1.35	45	53
E	1.3		51	
E1	0.65		26	
HE	2.0	2.2	79	87
Lp	0.15	0.45	6	18
Q	0.13	0.23	5.1	9
v	0.2		8	
W	0.2		8	

**The recommended mounting pad size**



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