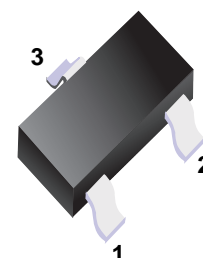


NPN Transistor



1.Base
2.Emitter
3.Collector

■ Features

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

■ Simplified outline(SOT-323)

■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V _{CB0}	60	V
Collector - Emitter Voltage	V _{CEO}	50	
Emitter - Base Voltage	V _{EBO}	7	
Collector Current - Continuous	I _c	150	mA
Collector Power Dissipation	P _C	200	mW
Junction Temperature	T _J	150	°C
Storage Temperature Range	T _{stg}	-55 to 150	

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V _{CB0}	I _c = 100 μ A, I _E = 0	60			V
Collector- emitter breakdown voltage	V _{CEO}	I _c = 1 mA, I _B = 0	50			
Emitter - base breakdown voltage	V _{EBO}	I _E = 100 μ A, I _c = 0	7			
Collector-base cut-off current	I _{CB0}	V _{CB} = 60V, I _E = 0			0.1	μ A
Emitter cut-off current	I _{EBO}	V _{EB} = 7V, I _c =0			0.1	
Collector-emitter saturation voltage	V _{CE(sat)}	I _c =50 mA, I _B =5mA			0.4	V
Base - emitter saturation voltage	V _{BE(sat)}	I _c =50 mA, I _B =5mA			1.2	
DC current gain	h _{FE}	V _{CE} = 6V, I _c = 1mA	120		560	
Collector output capacitance	C _{ob}	V _{CE} = 12V, I _E =0, f=1MHz		2	3.5	pF
Transition frequency	f _T	V _{CE} = 12V, I _E =-2mA, f=100MHz		180		MHz

■ Classification of h_{FE}

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

■ Typical Characteristics

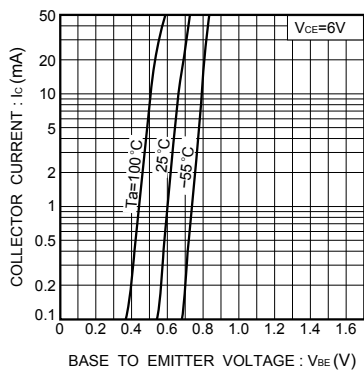


Fig.1 Grounded emitter propagation characteristics

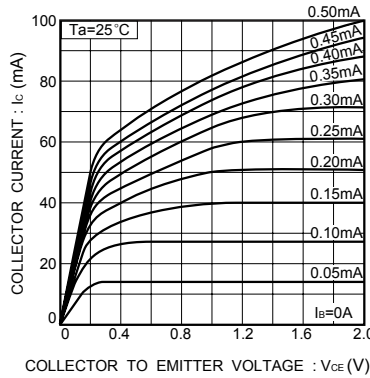


Fig.2 Grounded emitter output characteristics (I)

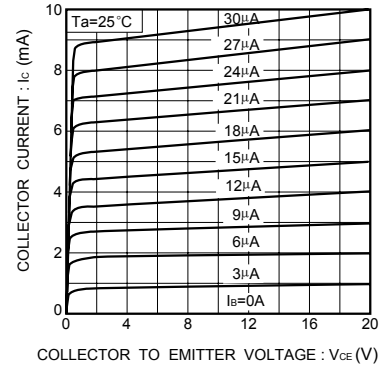


Fig.3 Grounded emitter output characteristics (I) I

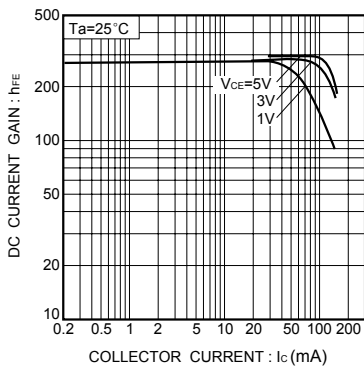


Fig.4 DC current gain vs. collector current (I)

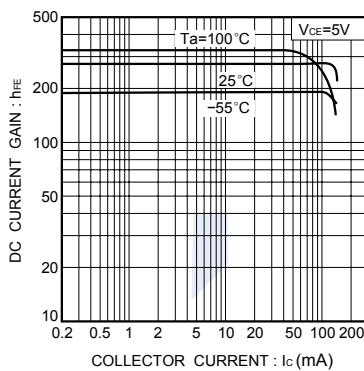


Fig.5 DC current gain vs. collector current (I) I

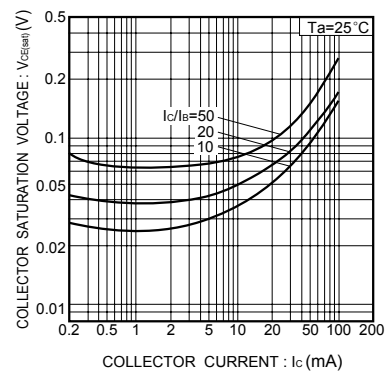


Fig.6 Collector-emitter saturation voltage vs. collector current

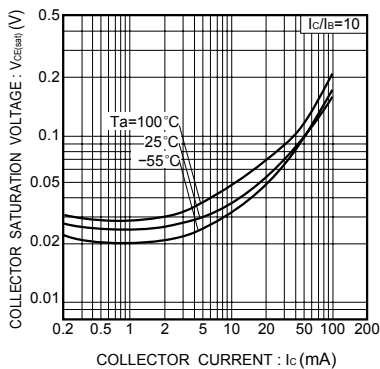


Fig.7 Collector-emitter saturation voltage vs. collector current (I)

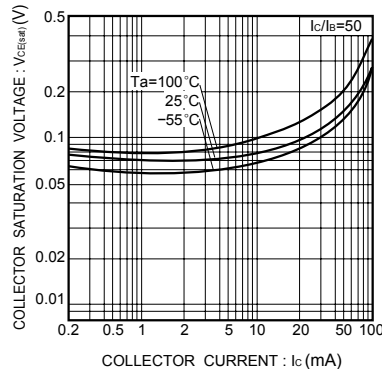


Fig.8 Collector-emitter saturation voltage vs. collector current (I) I

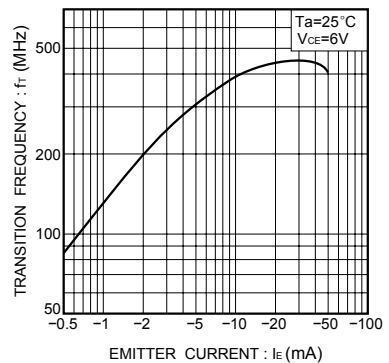


Fig.9 Gain bandwidth product vs. emitter current

■ Typical Characteristics

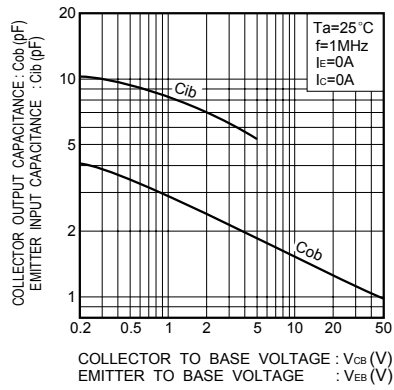


Fig.10 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

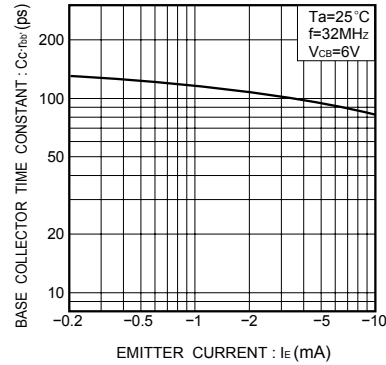
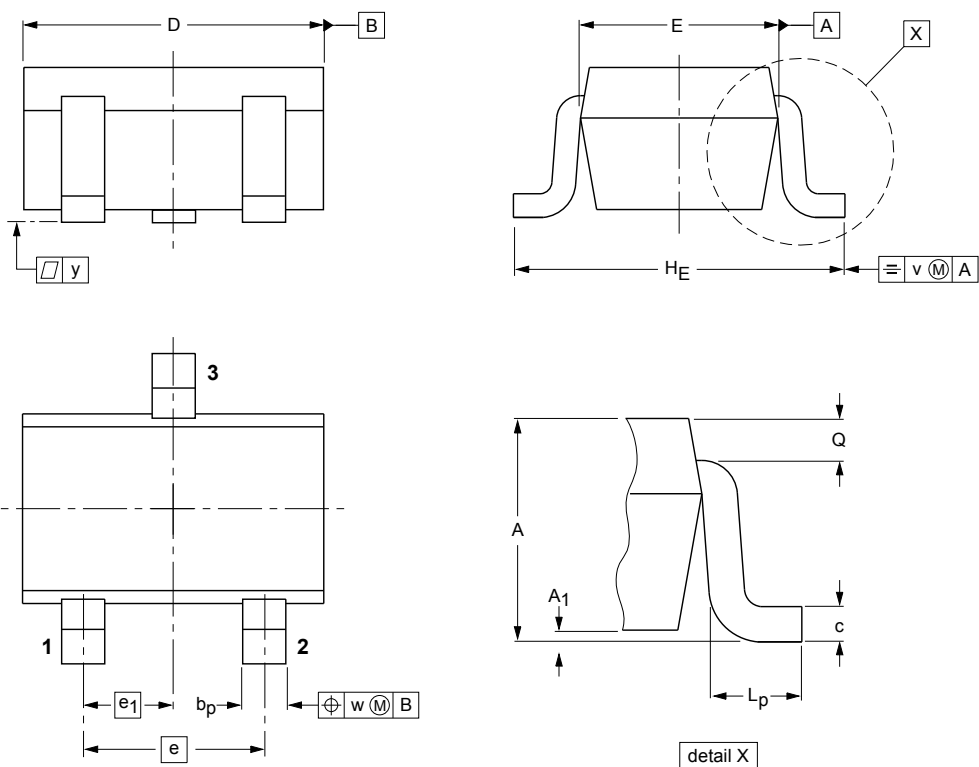


Fig.11 Base-collector time constant vs. emitter current

■ SOT-323



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w
mm	1.1 0.8	0.1	0.4 0.3	0.25 0.10	2.2 1.8	1.35 1.15	1.3	0.65	2.2 2.0	0.45 0.15	0.23 0.13	0.2	0.2

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