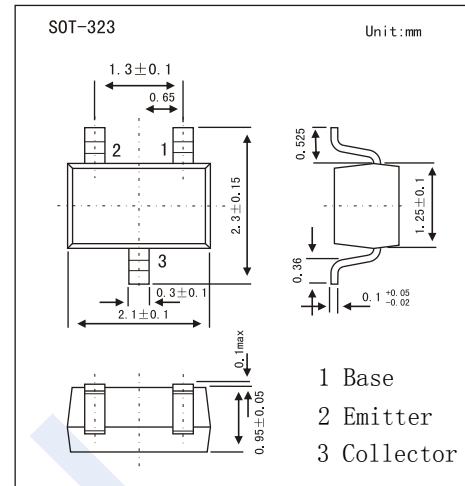


NPN Transistors

2SC4097

■ Features

- High I_{CMax} , $I_{CMax} = 0.5A$
- Low $V_{CE(sat)}$.
- Complementary to 2SA1577



■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	40	V
Collector - Emitter Voltage	V_{CEO}	32	
Emitter - Base Voltage	V_{EBO}	5	
Collector Current - Continuous	I_C	0.5	A
Collector Power Dissipation	P_C	0.2	W
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55 to 150	

■ Electrical Characteristics $T_a = 25^\circ C$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	$I_C = 100 \mu A, I_E = 0$	40			V
Collector- emitter breakdown voltage	V_{CEO}	$I_C = 1 mA, I_B = 0$	32			
Emitter - base breakdown voltage	V_{EBO}	$I_E = 100 \mu A, I_C = 0$	5			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 20V, I_E = 0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 4V, I_C = 0$			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500 mA, I_B = 50 mA$			0.6	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 500 mA, I_B = 50 mA$			1.2	
DC current gain	h_{FE}	$V_{CE} = 3V, I_C = 10 mA$	120		390	
Collector output capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1 MHz$		6.5		pF
Transition frequency	f_T	$V_{CE} = 5V, I_E = -20 mA, f = 100 MHz$		250		MHz

■ Classification of h_{FE}

Type	2SC4097-Q	2SC4097-R
Range	120-270	180-390
Marking	CQ	CR

NPN Transistors 2SC4097

■ Typical Characteristics

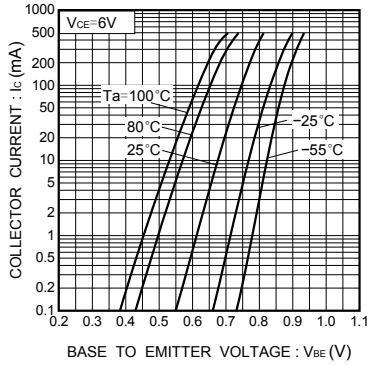


Fig.1 Grounded emitter propagation characteristics

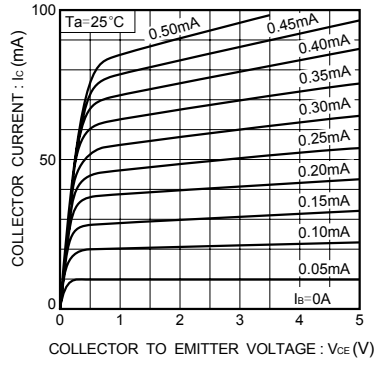


Fig.2 Grounded emitter output characteristics (I)

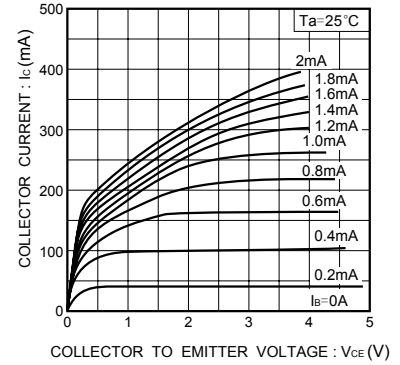


Fig.3 Grounded emitter output characteristics(II)

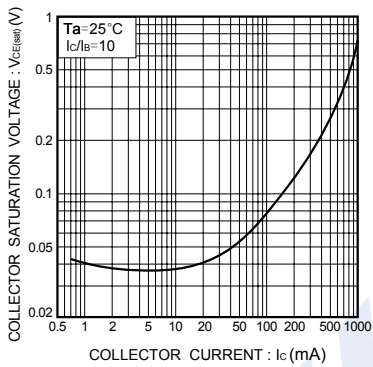


Fig.4 Collector-emitter saturation voltage vs. collector current

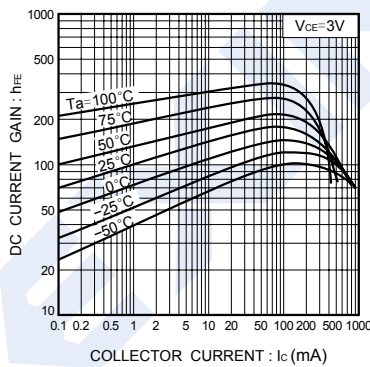


Fig.5 DC current gain vs. collector current

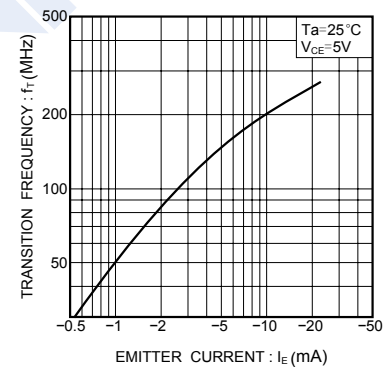


Fig.6 Gain bandwidth product vs. emitter current

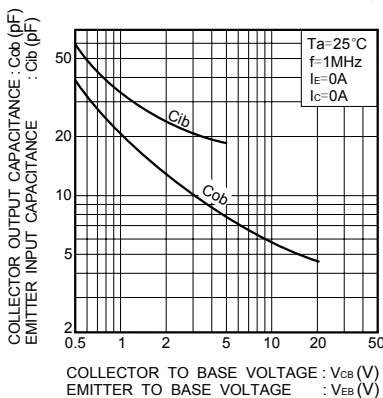


Fig.7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage