



Micro Commercial Components

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## Features

- High  $I_{Cmax}$ .  $I_{Cmax}=0.5A$
- Low  $V_{CE(SAT)}$ . Optimal for low voltage operation.
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1

## Maximum Ratings

Symbol	Rating	Rating	Unit
$V_{CEO}$	Collector-Emitter Voltage	32	V
$V_{CBO}$	Collector-Base Voltage	40	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current	500	mA
$P_C$	Collector power dissipation	200	mW
$T_J, T_{STG}$	Junction and Storage Temperature	-55 to +150	°C

$P_{Cmax}$  must not be exceeded.

## Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Typ	Max	Units
$V_{(BR)CBO}$	Collector -base breakdown voltage ( $I_C=100\mu A, I_E=0$ )	40			V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage ( $I_C=-1mA, I_B=0$ )	32			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage ( $I_E=100\mu A, I_C=0$ )	5			V
$I_{CBO}$	Collector cut-off current ( $V_{CB}=20V, I_E=0$ )			1	$\mu A$
$I_{EBO}$	Emitter cut-off current ( $V_{EB}=4V, I_C=0$ )			1	$\mu A$
$h_{FE}$	DC Current Gain ( $V_{CE}=3V, I_C=10mA$ )	82		390	
$V_{CE(sat)}$	Collector-emitter saturation voltage ( $I_C=100mA, I_B=10mA$ )			0.4	V
$C_{ob}$	Collector Output Capacitance ( $V_{CB}=10V, I_E=0, f=1.0MHz$ )		6		pF
$f_T$	Transition frequency ( $V_{CE}=5V, I_C=20mA, f=100MHz$ )		250		MHz

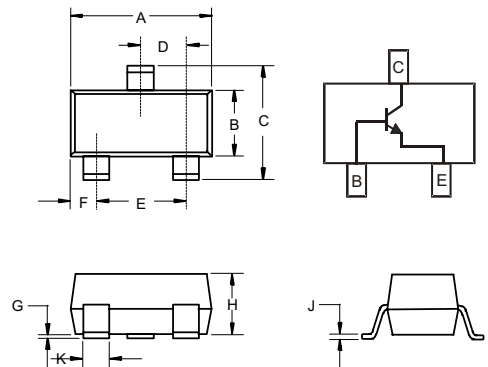
## $h_{FE}$ CLASSIFICATION

Rank	P	Q	R
Range	82-180	120-270	180-390
Marking	CP	CQ	CR

**2SC4097-P**  
**2SC4097-Q**  
**2SC4097-R**

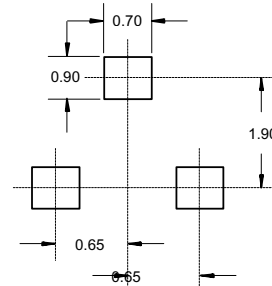
**NPN Silicon**  
**Epitaxial Transistors**

## SOT-323



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		0.65Nominal		
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



# 2SC4097-P/Q/R

● **Electrical characteristic curves**

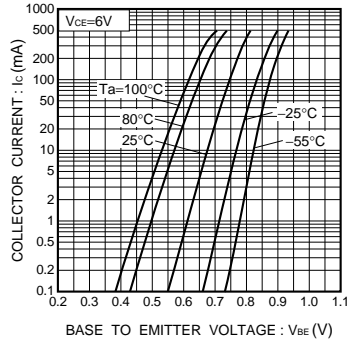


Fig.1 Grounded emitter propagation characteristics

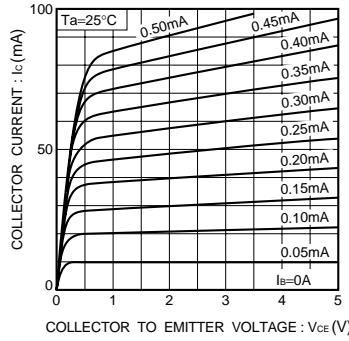


Fig.2 Grounded emitter output characteristics ( I )

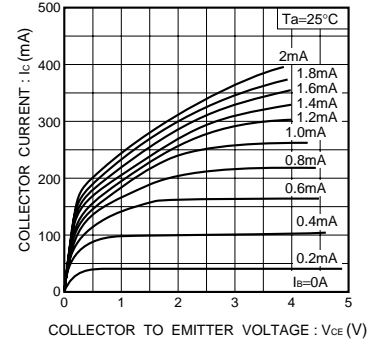


Fig.3 Grounded emitter output characteristics( II )

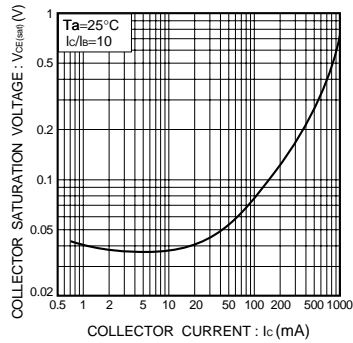


Fig.4 Collector-emitter saturation voltage vs. collector current

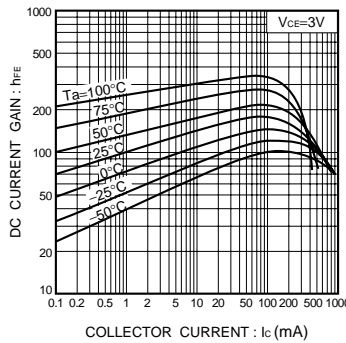


Fig.5 DC current gain vs. collector current

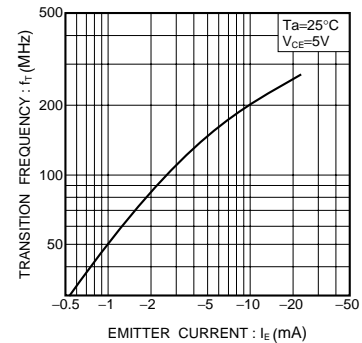


Fig.6 Gain bandwidth product vs. emitter current

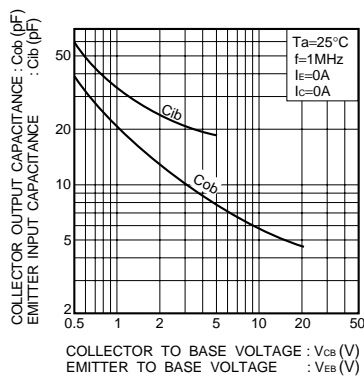


Fig.7 Collector output capacitance vs. collector-base voltage  
Emitter input capacitance vs. emitter-base voltage



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## Ordering Information

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

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