

Transistor  
**2SC5807**

For Low Frequency Amplify Application  
 Silicon NPN Epitaxial Type

**DESCRIPTION**

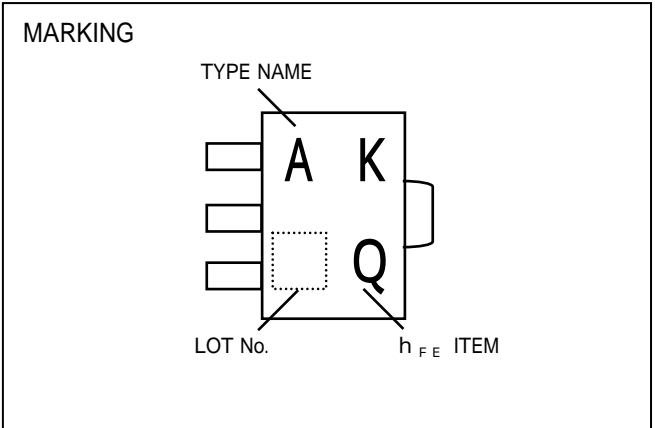
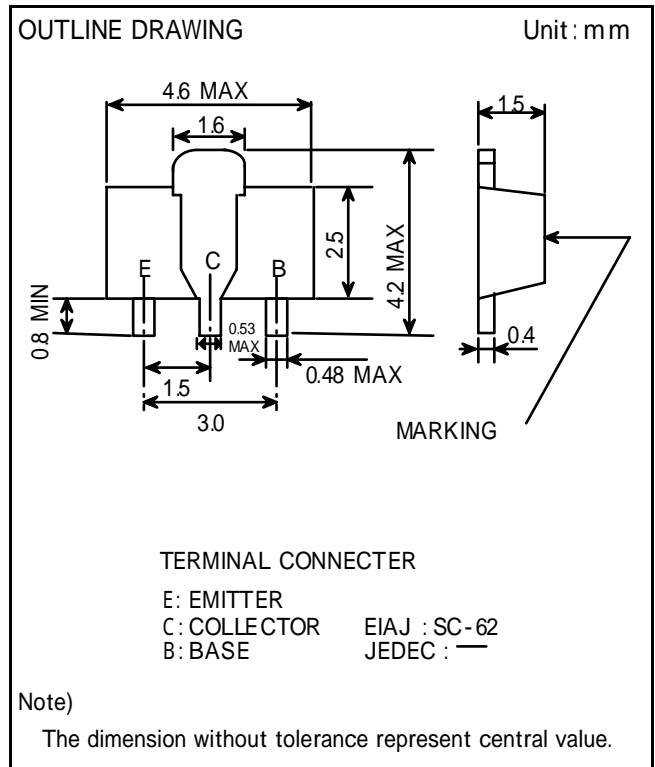
2SC5807 is a silicon NPN epitaxial Transistor.  
 It designed with high collector current and high collector dissipation.

**FEATURE**

- High collector current  $I_c=5A$
- Small collector to Emitter saturation voltage
- $V_{CE(sat)}=0.25V$  TYP. (@ $I_c=4A, I_b=100mA$ )
- High collector dissipation  $P_c=500mW$

**APPLICATION**

For storobe ,DC/DC convector,power amplify apprication



**MAXIMUM RATINGS (Ta=25 )**

SYMBOL	PARAMETER	RATINGS	UNIT
$V_{CBO}$	Collector to Base voltage	50	V
$V_{EBO}$	Emitter to Base voltage	6	V
$V_{CEO}$	Collector to Emitter voltage	15	V
$I_c$	Collector current	5	A
$I_{CM}$	Peak Collector current *1	10	
$P_c$	Collector dissipation (Total, Ta=25 )	0.5	W
	Collector dissipation (Total, Ta=25 ) *2	2	
$T_j$	Junction temperature	+ 150	
$T_{stg}$	Storage temperature	-55 ~ + 150	

\*1 Single Pulse Pw=10msec

\*2 Pakkage mounted on 35mm×50mm×0.8mm ceramic board.

## ELECTRICAL CHARACTERISTICS (Ta=25 )

SYMBOL	PARAMETER	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
$V_{(BR)CBO}$	C to B break down voltage	$I_C=50 \mu A, I_E=0mA$	50			V
$V_{(BR)EBO}$	E to B break down voltage	$I_E=50 \mu A, I_C=0mA$	6			V
$V_{(BR)CEO}$	C to E break down voltage	$I_C=1mA, R_{BE}=\infty$	15			V
$I_{CBO}$	Collector cut off current	$V_{CB}=40V, I_E=0mA$			0.5	$\mu A$
$I_{EBO}$	Emitter cut off current	$V_{EB}=5V, I_C=0mA$			0.5	$\mu A$
$h_{FE}$	DC forward current gain	$V_{CE}=2V, I_C=0.5A$	120		390	-
$V_{CE(sat)}$	C to E saturation voltage	$I_C=4A, I_B=100mA$		0.25	1.0	V
$f_T$	Gain band width product	$V_{CE}=6V, I_E=-50mA$		150		MHz
$C_{ob}$	Collector output capacitance	$V_{CB}=20V, I_E=0mA, f=1MHz$		30		pF

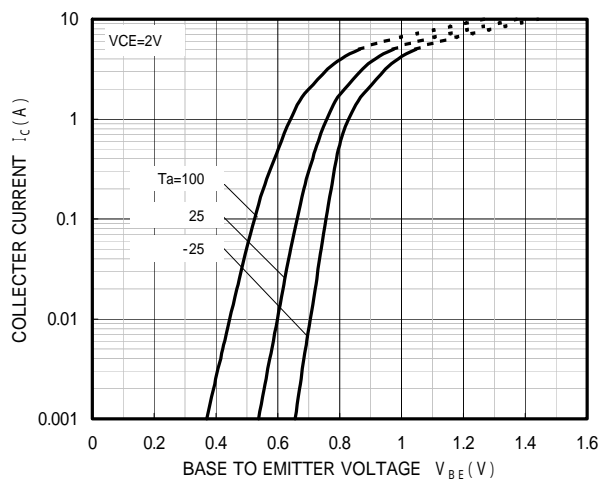
\* Measured using pulse current.

\* It shows  $h_{FE}$  classification in right table.

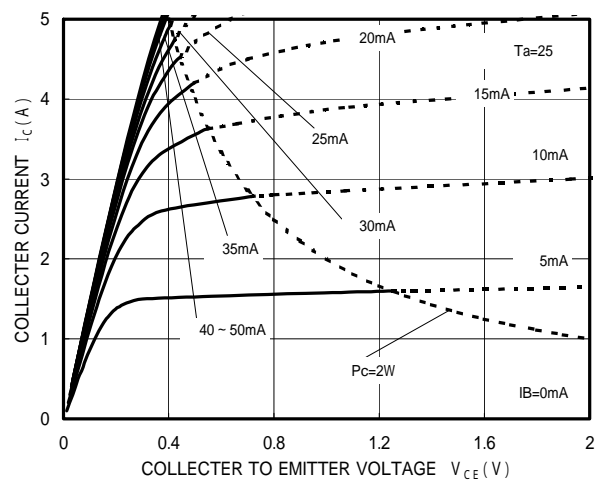
Marking	Q	R
$h_{FE}$	120 to 270	180 to 390

## TYPICAL CHARACTERISTICS

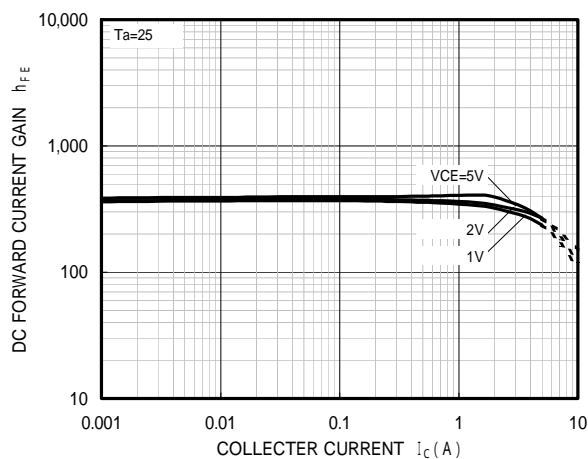
COMMON EMITTER TRANSFER



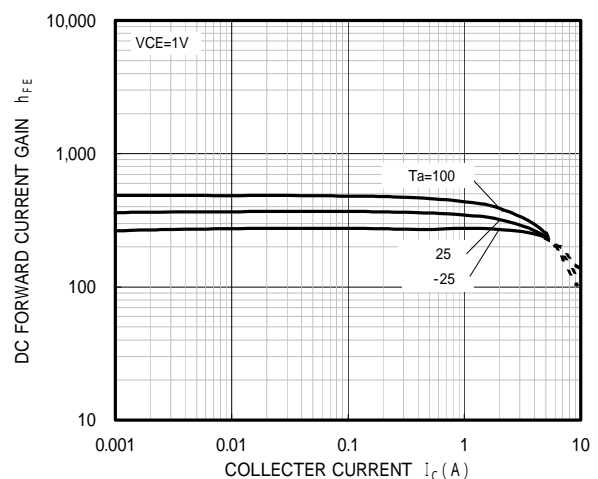
COMMON EMITTER OUTPUT



DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT ( )



DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT ( )

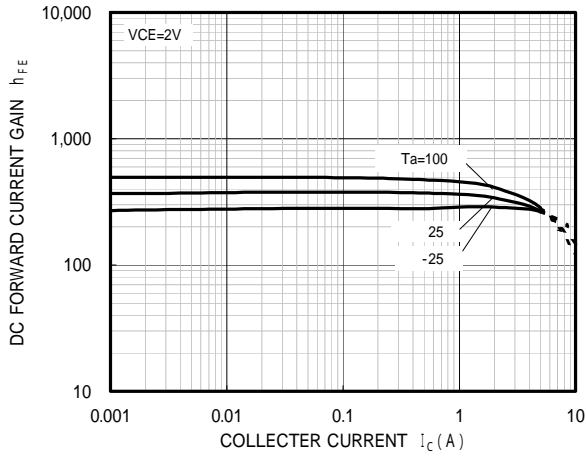


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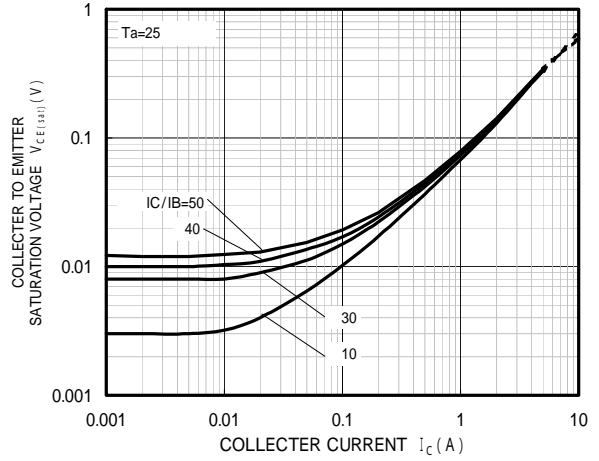
For strobe,DC/DC convertor Application

Silicon NPN Epitaxial Type

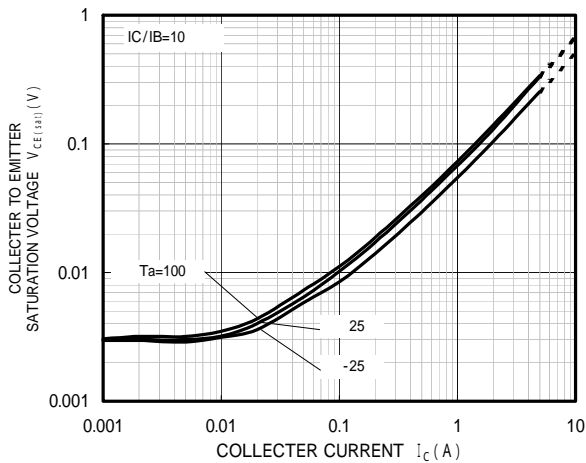
DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT( )



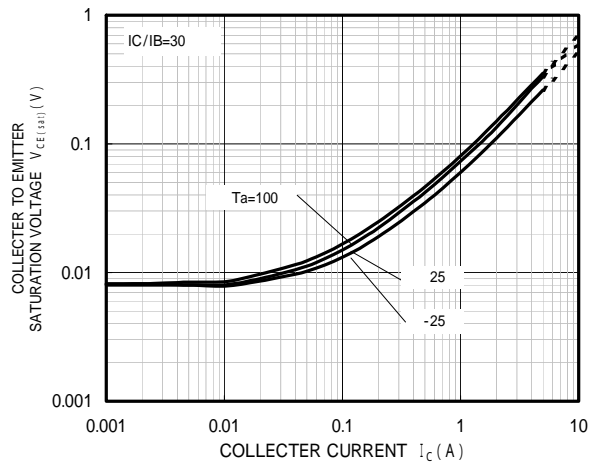
COLLECTOR TO EMITTER SATURATION VOLTAGE VS. COLLECTOR CURRENT( )



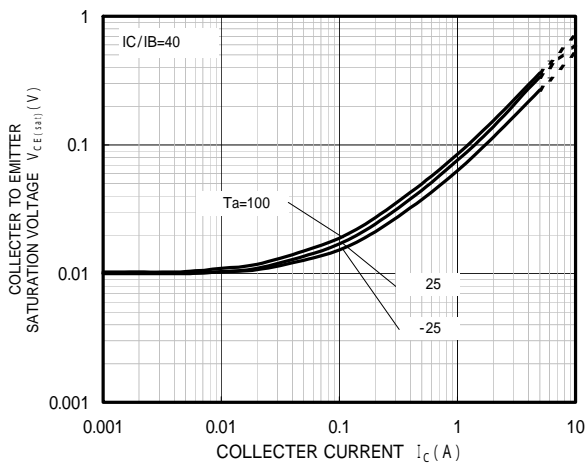
COLLECTOR TO EMITTER SATURATION VOLTAGE VS. COLLECTOR CURRENT( )



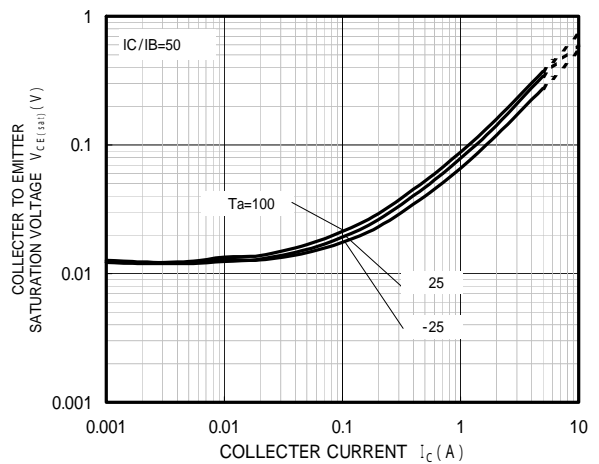
COLLECTOR TO EMITTER SATURATION VOLTAGE VS. COLLECTOR CURRENT( )



COLLECTOR TO EMITTER SATURATION VOLTAGE VS. COLLECTOR CURRENT( )



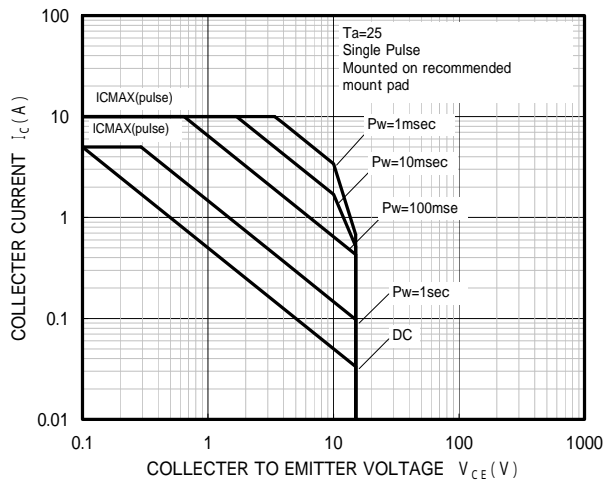
COLLECTOR TO EMITTER SATURATION VOLTAGE VS. COLLECTOR CURRENT( )



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AREA OF SAFETY OPERATION





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