Ordering number : ENA1118

SANYO Semiconductors
DATA SHEET

NPN Epitaxial Planar Silicon Transistor

2SC5551A — High-Frequency Medium-Output Amplifier Applications

Features

- High f_T : (f_T=3.5GHz typ).
- Large current : (I_C=300mA).
- Large allowable collector dissipation (1.3W max).

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		40	V
Collector-to-Emitter Voltage	V_{CEO}		30	V
Emitter-to-Base Voltage	V_{EBO}		2	V
Collector Current	I_C		300	mA
Collector Current (Pulse)	I_{CP}		600	mA
Collector Dissipation	P_C	When mounted on ceramic substrate (250mm²×0.8mm)	1.3	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		−55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=20V, I_E=0A			1.0	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=1V, I_C=0A			5.0	μA

Continued on next page.

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Continued from preceding page.

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
DC Current Gain	$h_{FE}1$	V_{CE}=5V, I_C=50mA	90		270	
	$h_{FE}2$	V_{CE}=5V, I_C=300mA	20			
Gain-Bandwidth Product	f_T	V_{CE}=5V, I_C=50mA		3.5		GHz
Output Capacitance	Cob	V_{CB}=10V, f=1MHz		2.9	4.0	pF
Reverse Transfer Capacitance	Cre	V_{CB}=10V, f=1MHz		1.5		pF
Collector-to-Emitter Saturation Voltage	V_{CE}(sat)	I_C=50mA, I_B=5mA		0.07	0.3	V
Base-to-Emitter Saturation Voltage	V_{BE}(sat)	I_C=50mA, I_B=5mA		0.8	1.2	V

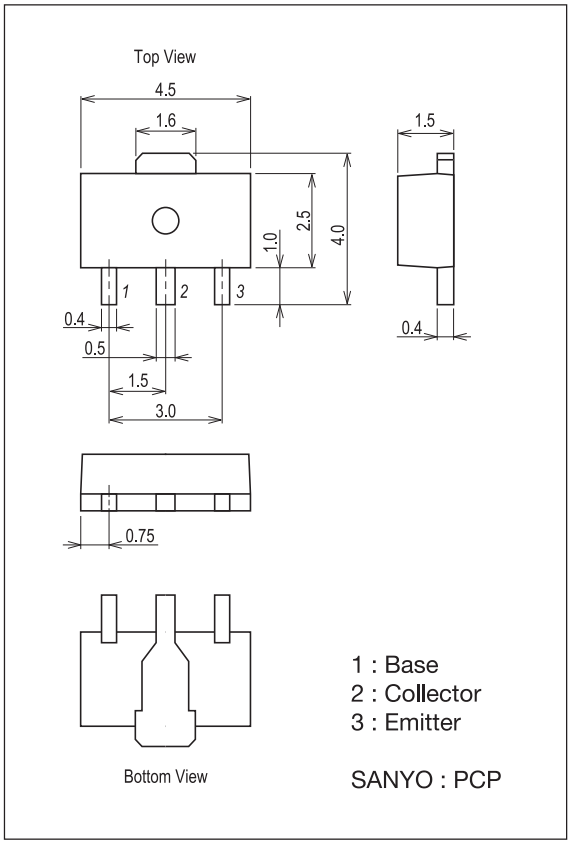
* : The 2SC5551A is classified by 50mA h_{FE} as follows :

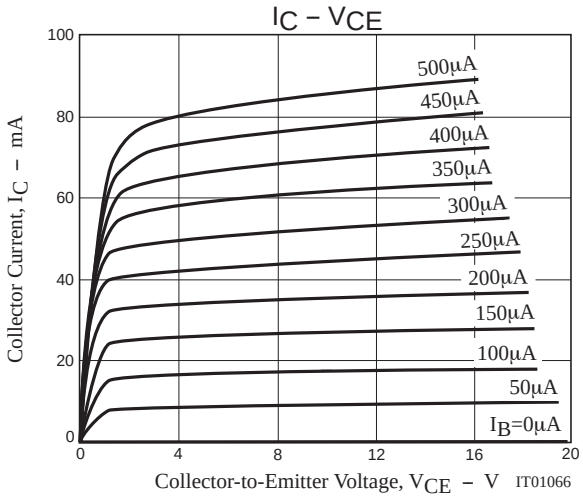
Marking	EB E	EB F
Rank	E	F
h_{FE}	90 to 180	135 to 270

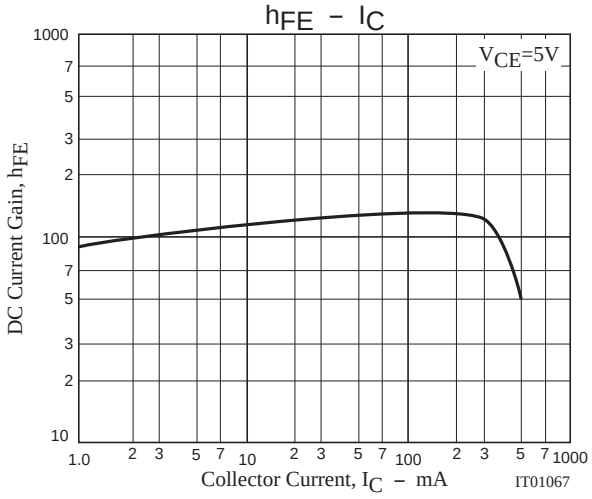
Package Dimensions

unit : mm (typ)

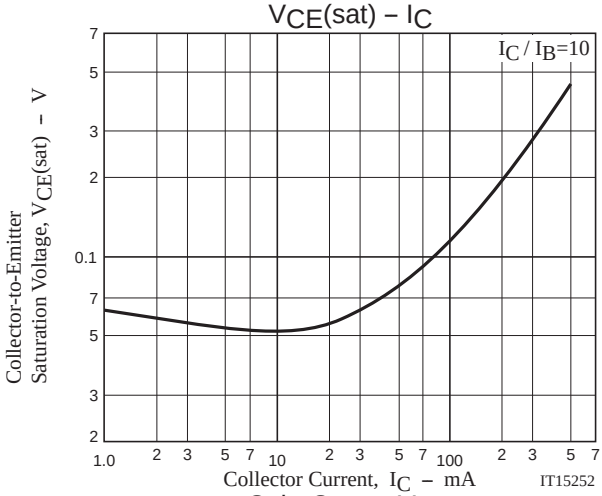
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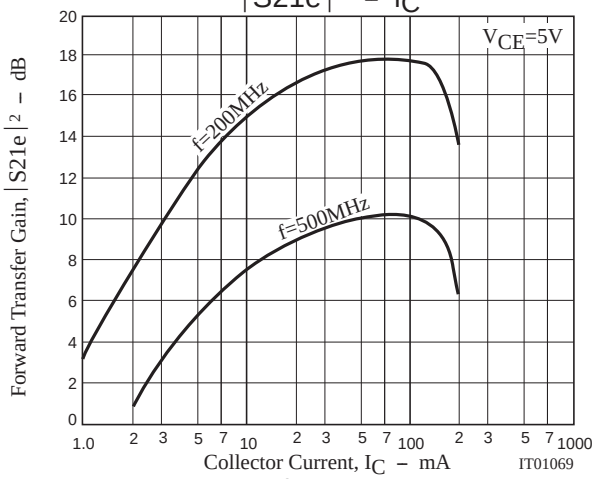




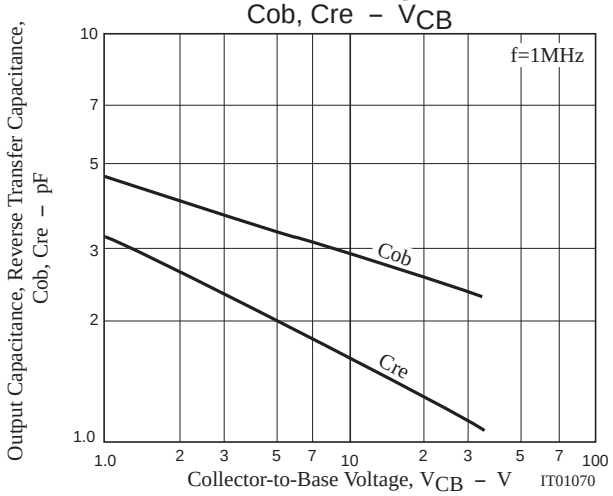
$V_{CE}(sat) - I_C$



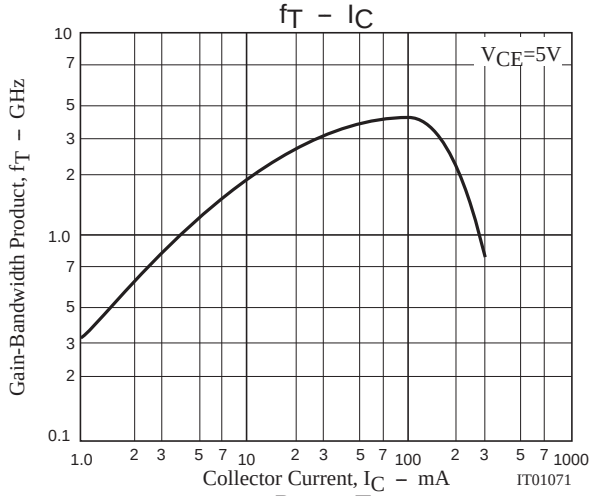
$|S21e|^2 - I_C$



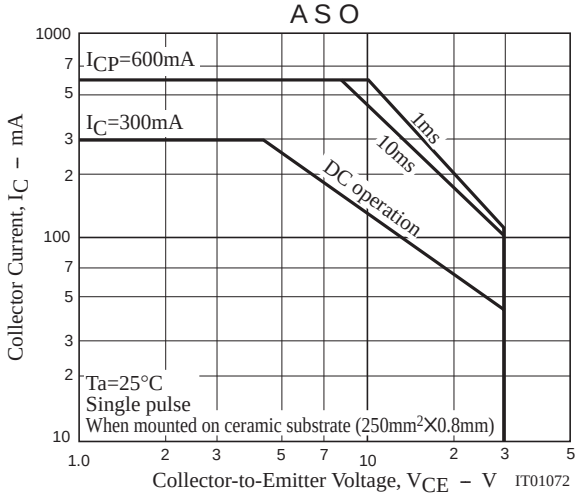
Cob, Cre – V_{CB}



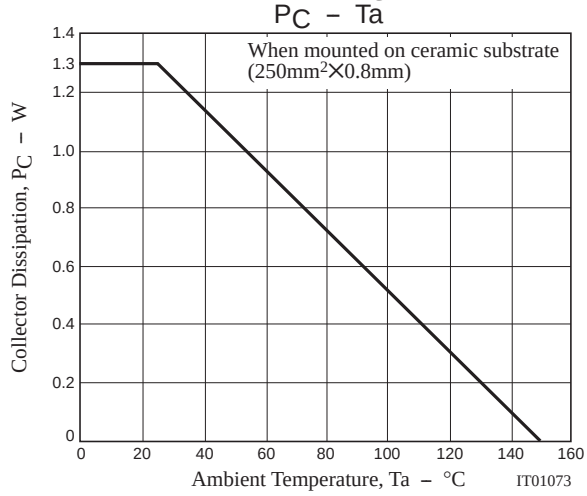
$f_T - I_C$



A S O



$P_C - Ta$



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