Ordering number:EN3687

NPN Triple Diffused Planar Silicon Transistor

2SC4709

High-Voltage Amplifier, High-Voltage Switching Applications

Features

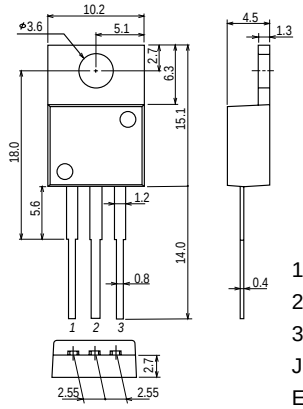
- High breakdown voltage (V_{CEO} min=2100V).
- Small Cob (Cob typ=1.3pF).
- Wide ASO.
- High reliability (Adoption of HVP process).

Package Dimensions

unit:mm

2010C

[2SC4709]



1 : Base
2 : Collector
3 : Emitter
JEDEC : TO-220AB
EIAJ : SC-46

Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		2100	V
Collector-to-Emitter Voltage	V_{CEO}		2100	V
Emitter-to-Base Voltage	V_{EBO}		5	V
Collector Current	I_C		10	mA
Collector Current (Pulse)	I_{CP}		30	mA
Collector Dissipation	P_C		1.75	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}=2100V, I_E=0			1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=4V, I_C=0			1	μA
DC Current Gain	h_{FE}	V_{CE}=5V, I_C=500μA	10		60	
Gain-Bandwidth Product	f_T	V_{CE}=10V, I_C=500μA		6		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=1mA, I_B=200μA			5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=1mA, I_B=200μA			2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=10μA, I_E=0	2100			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=100μA, R_{BE}=∞	2100			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=10μA, I_C=0	5			V
Output Capacitance	Cob	V_{CB}=100V, f=1MHz		1.3		pF

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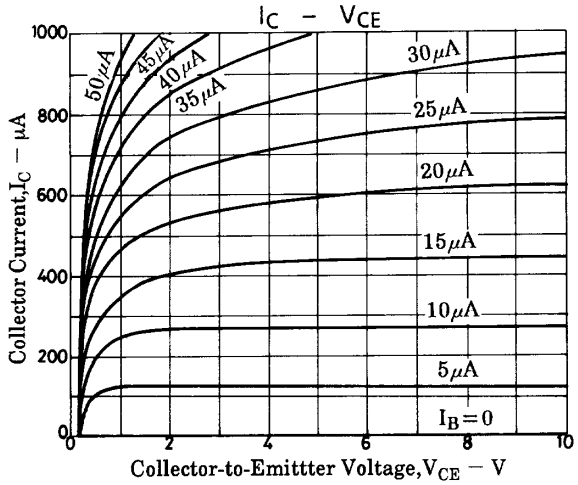
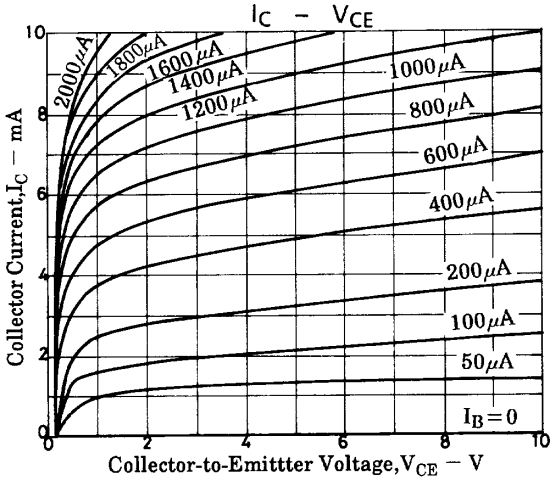
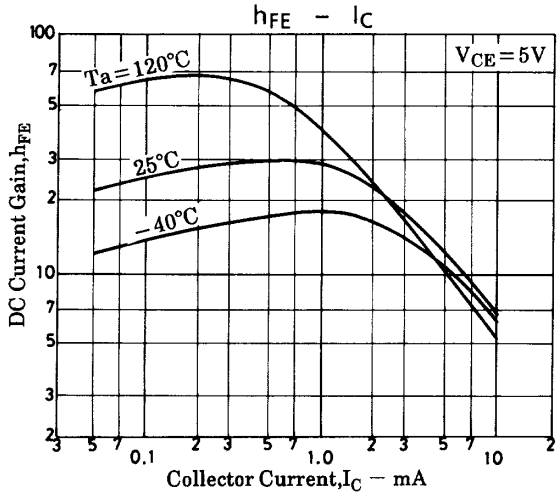
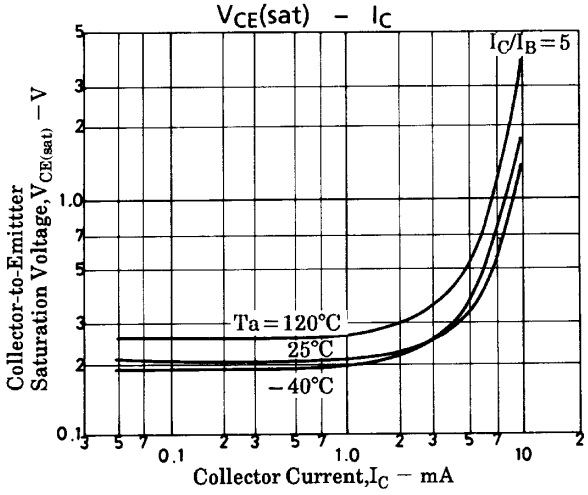
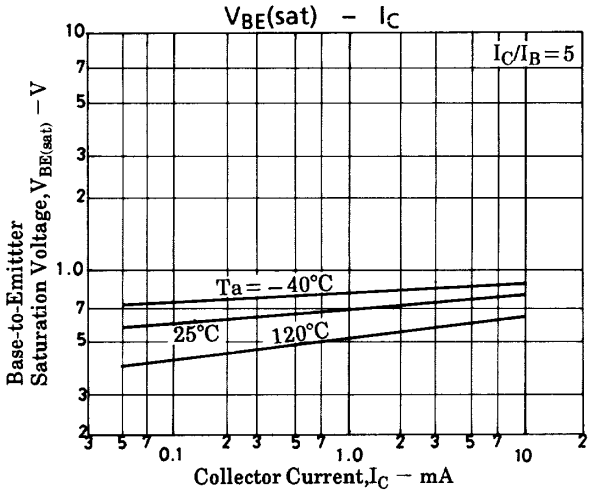
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

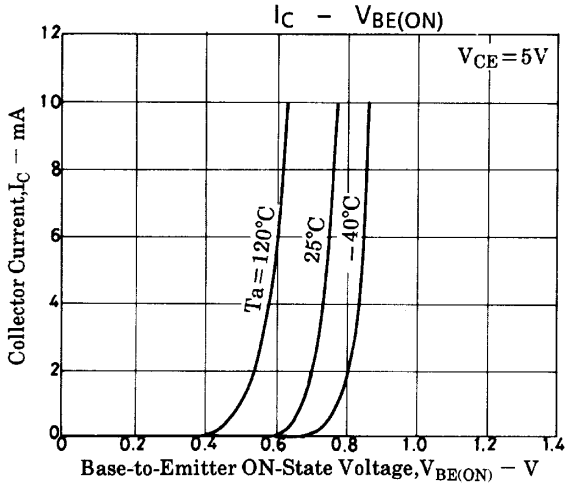

IC – VCE
Collector Current,IC – μA
Collector-to-Emittter Voltage,VCE – V
50μA
45μA
40μA
35μA
30μA
25μA
20μA
15μA
10μA
5μA
IB=0

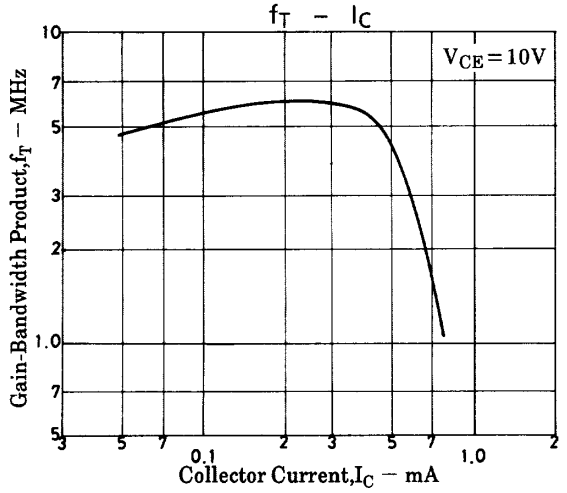

IC – VCE
Collector Current,IC – mA
Collector-to-Emittter Voltage,VCE – V
2000μA
1800μA
1600μA
1400μA
1200μA
1000μA
800μA
600μA
400μA
200μA
100μA
50μA
IB=0

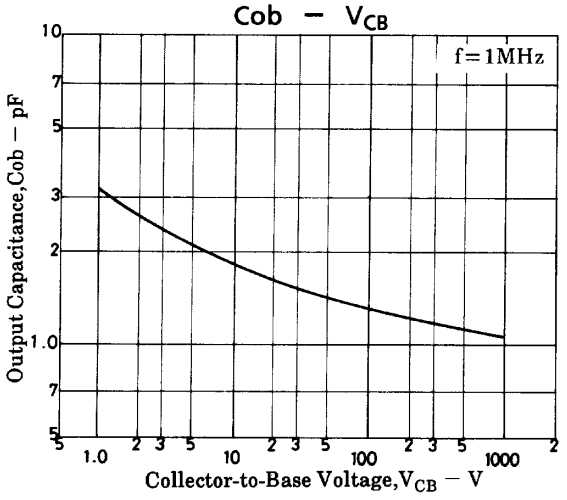

hFE – IC
DC Current Gain,hFE
Collector Current,IC – mA
Ta=120°C
25°C
–40°C
VCE=5V


VCE(sat) – IC
Collector-to-Emittter Saturation Voltage,VCE(sat) – V
Collector Current,IC – mA
IC/IB=5
Ta=120°C
25°C
–40°C


VBE(sat) – IC
Base-to-Emittter Saturation Voltage,VBE(sat) – V
Collector Current,IC – mA
IC/IB=5
Ta=–40°C
25°C
120°C


IC – VBE(ON)
Collector Current,IC – mA
Base-to-Emitter ON-State Voltage,VBE(ON) – V
VCE=5V
Ta=120°C
25°C
–40°C


fT – IC
Gain-Bandwidth Product,fT – MHz
Collector Current,IC – mA
VCE=10V


Cob – VCB
Output Capacitance,Cob – pF
Collector-to-Base Voltage,VCB – V
f=1MHz