Ordering number: EN 5183

SANYO

No.5183

2SA1968

NPN Triple Diffused Planar Silicon Transistor

High-Voltage Amp, High-Voltage Switching Applications

Features

- High breakdown voltage (V_{CEO} min = −900V).
- Small Cob (Cob typ = 2.2pF).
- High reliability (Adoption of HVP process).
- Package of full isolation type.

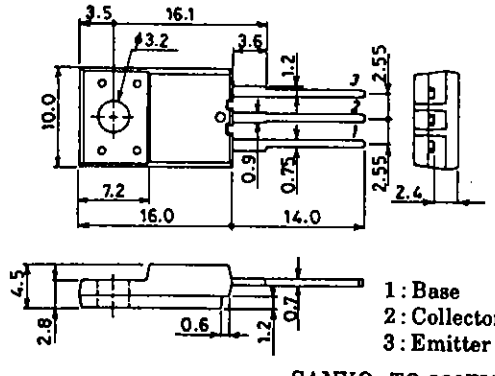
Absolute Maximum Ratings at Ta = 25°C

			unit
Collector-to-Base Voltage	V_{CBO}	−900	V
Collector-to-Emitter Voltage	V_{CEO}	−900	V
Emitter-to-Base Voltage	V_{EBO}	−7	V
Collector Current	I_C	−10	mA
Collector Current (Pulse)	I_{CP}	−30	mA
Collector Dissipation	P_C	2	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	−55 to +150	°C

Electrical Characteristics at Ta = 25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB} = −900V, I_E = 0			−1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB} = −5V, I_C = 0			−1	μA
DC Current Gain	h_{FE}	V_{CE} = −5V, I_C = −1mA	20		50	
Gain-Bandwidth Product	f_T	V_{CE} = −10V, I_C = −1mA		6		MHz
Output Capacitance	Cob	V_{CB} = −100V, f = 1MHz		2.2		pF
C-E Saturation Voltage	$V_{CE(sat)}$	I_C = −500μA, I_B = −100μA			−1	V
B-E Saturation Voltage	$V_{BE(sat)}$	I_C = −500μA, I_B = −100μA			−1.5	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C = −100μA, I_E = 0	−900			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	I_C = −1mA, R_{BE} = ∞	−900			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	I_E = −100μA, I_C = 0	−7			V

Package Dimensions 2079B
(unit : mm)



1 : Base
2 : Collector
3 : Emitter

SANYO : TO-220FI(LS)

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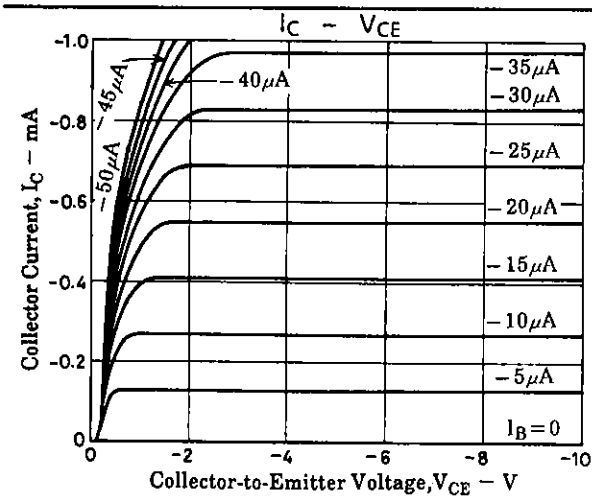
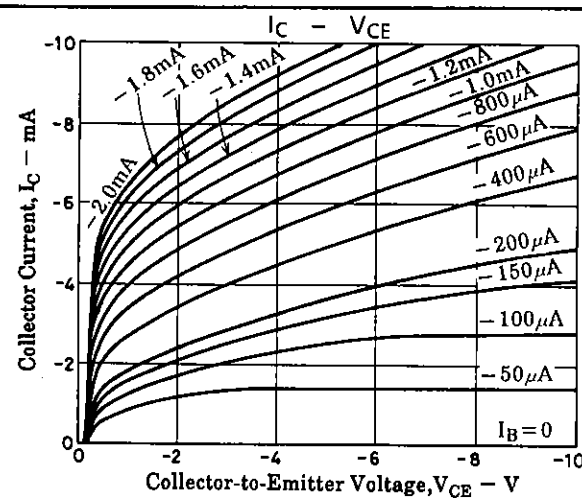
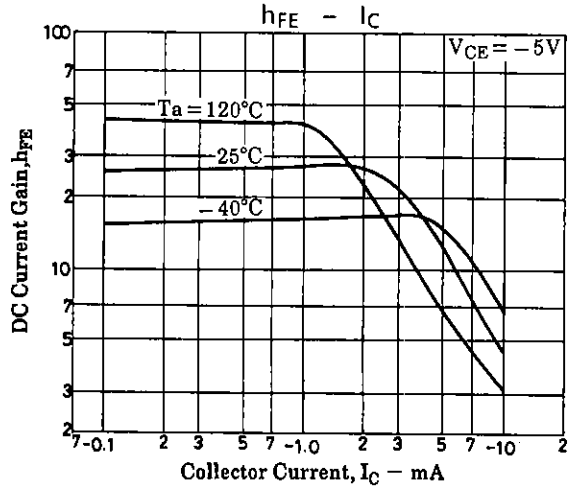
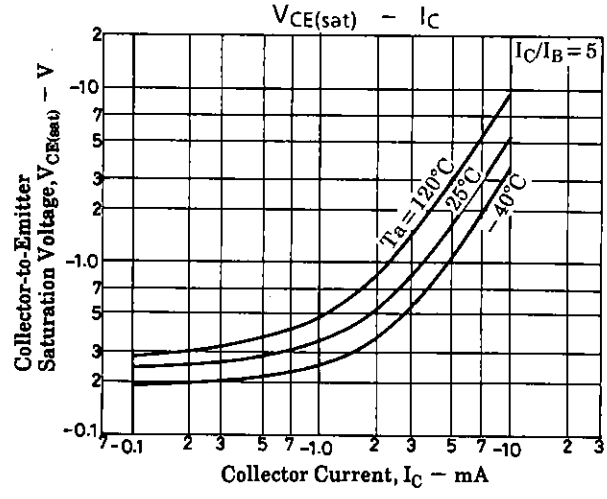
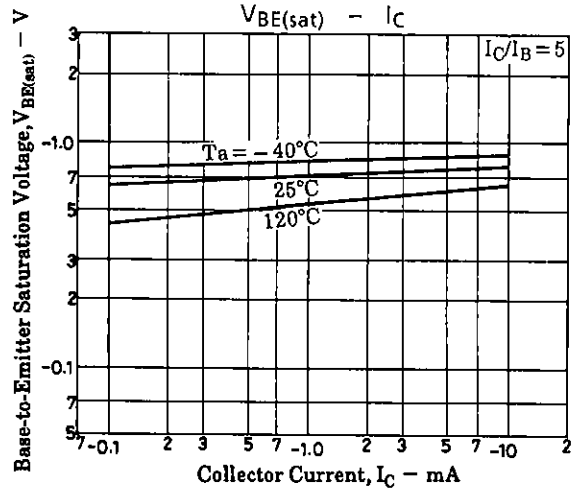
TOKYO OFFICE Tokyo Bldg.,1-10,1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

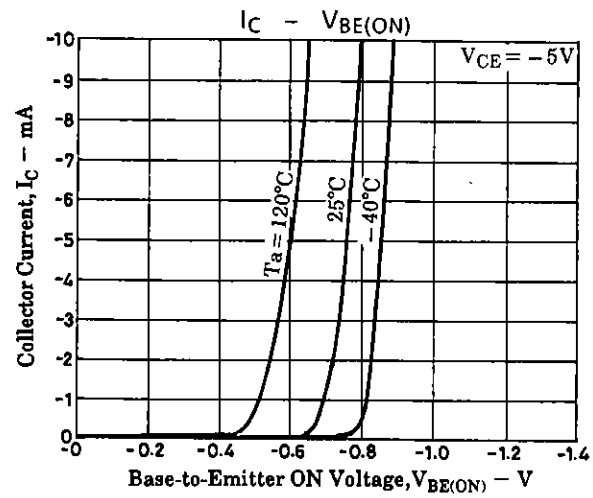

I_C – V_{CE}
Collector Current, I_C – mA
Collector-to-Emitter Voltage, V_{CE} – V
–45μA
–40μA
–35μA
–30μA
–25μA
–20μA
–15μA
–10μA
–5μA
–50μA
I_B=0

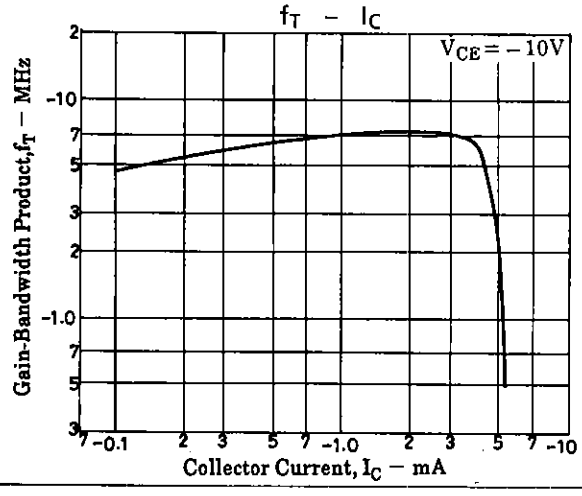

I_C – V_{CE}
Collector Current, I_C – mA
Collector-to-Emitter Voltage, V_{CE} – V
–1.8mA
–1.6mA
–1.4mA
–1.2mA
–1.0mA
–800μA
–600μA
–400μA
–2.0mA
–200μA
–150μA
–100μA
–50μA
I_B=0

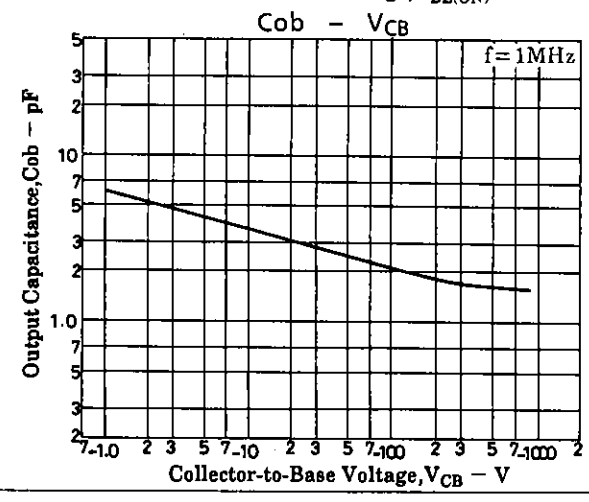

h_{FE} – I_C
DC Current Gain, h_{FE}
Collector Current, I_C – mA
V_{CE}=–5V
Ta=120°C
25°C
–40°C


$V_{CE(sat)}$ – I_C
Collector-to-Emitter Saturation Voltage, $V_{CE(sat)}$ – V
Collector Current, I_C – mA
I_C/I_B=5
Ta=120°C
25°C
–40°C


$V_{BE(sat)}$ – I_C
Base-to-Emitter Saturation Voltage, $V_{BE(sat)}$ – V
Collector Current, I_C – mA
I_C/I_B=5
Ta=–40°C
25°C
120°C


I_C – $V_{BE(ON)}$
Collector Current, I_C – mA
Base-to-Emitter ON Voltage, $V_{BE(ON)}$ – V
V_{CE}=–5V
Ta=120°C
25°C
–40°C


f_T – I_C
Gain-Bandwidth Product, f_T – MHz
Collector Current, I_C – mA
V_{CE}=–10V


Cob – V_{CB}
Output Capacitance, Cob – pF
Collector-to-Base Voltage, V_{CB} – V
f=1MHz