Ordering number : ENN7690

NPN Epitaxial Planar Silicon Transistor

CPH6006

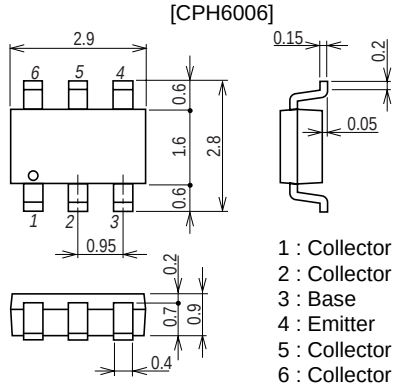
Video Output Driver, High-Frequency Amplifier Applications

Features

- High f_T (f_T=2.2GHz typ).
- Large current (I_C=300mA).
- Adoption of FBET process.

Package Dimensions

unit : mm
2146A



Specifications

Absolute Maximum Ratings at Ta=25°C

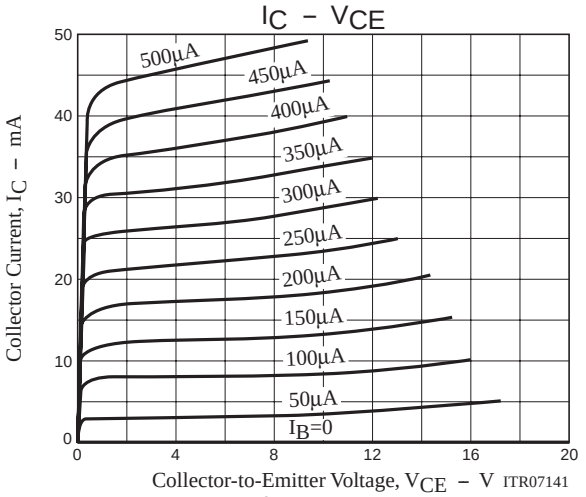
Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		30	V
Collector-to-Emitter Voltage	V_{CEO}		20	V
Emitter-to-Base Voltage	V_{EBO}		3	V
Collector Current	I_C		300	mA
Collector Current (Pulse)	I_{CP}		600	mA
Collector Dissipation	P_C	Mounted on a ceramic board (600mm²×0.8mm)	1.0	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		–55 to +150	°C

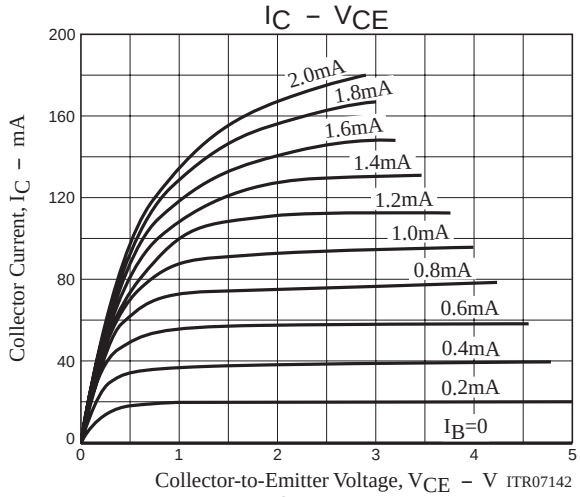
Electrical Characteristics at Ta=25°C

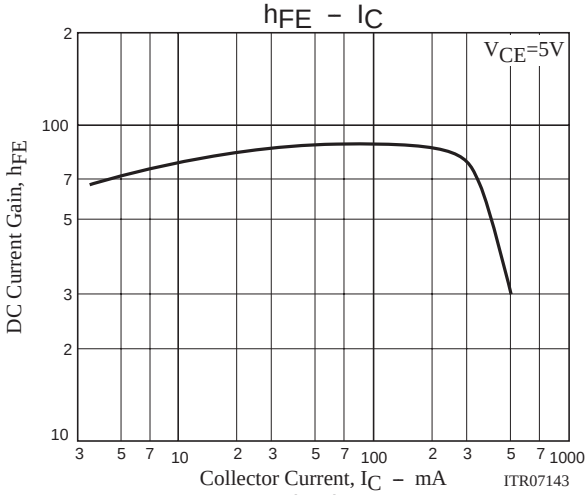
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=20V, I_E=0			0.1	µA
Emitter Cutoff Current	I_{EBO}	V_{EB}=2V, I_C=0			5.0	µA
DC Current Gain	$h_{FE}(1)$	V_{CE}=5V, I_C=50mA	100		200	
	$h_{FE}(2)$	V_{CE}=5V, I_C=300mA	20			
Gain-Bandwidth Product	f_T	V_{CE}=5V, I_C=50mA		2.2		GHz
Output Capacitance	Cob	V_{CB}=10V, f=1MHz		2.9		pF
Reverse Transfer Capacitance	Cre	V_{CB}=10V, f=1MHz		2.6		pF
Collector-to-Emitter Saturation Voltage	V_{CE}(sat)	I_C=100mA, I_B=10mA		0.15	0.5	V
Base-to-Emitter Saturation Voltage	V_{BE}(sat)	I_C=100mA, I_B=10mA		0.9	1.2	V

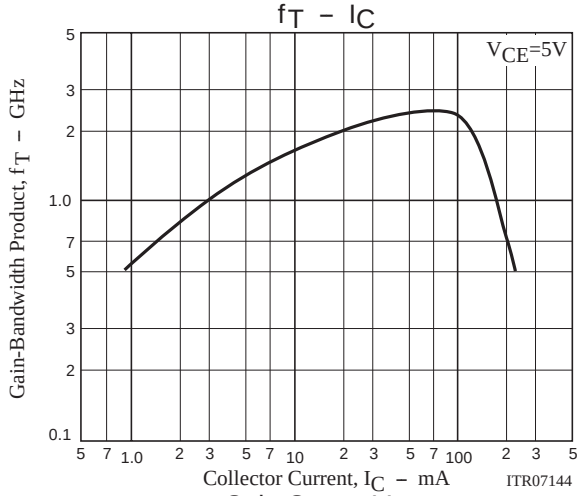
Marking : GF

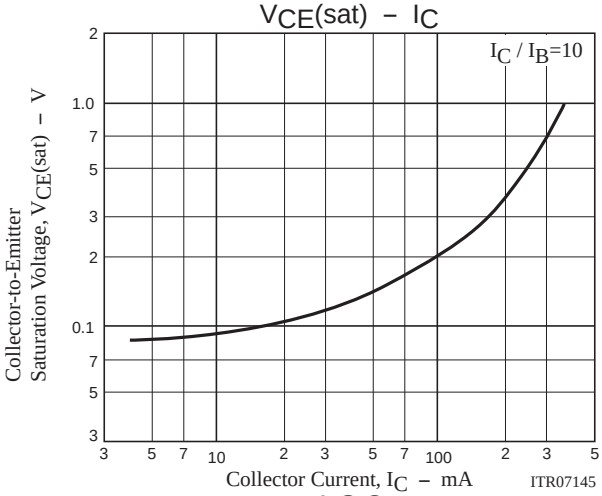
SANYO Electric Co.,Ltd. Semiconductor Company
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

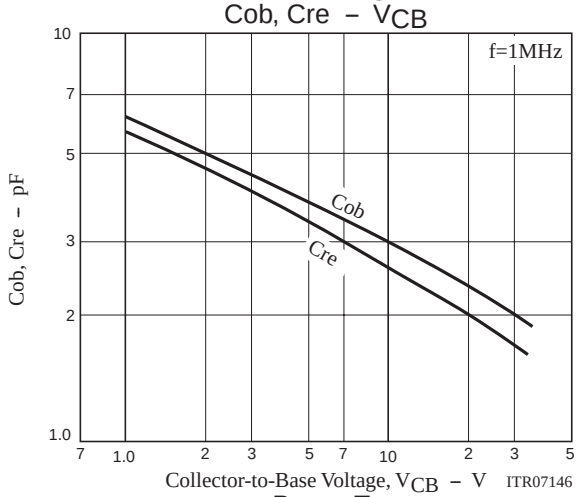

IC – VCE
Collector Current, IC – mA
Collector-to-Emitter Voltage, VCE – V
ITR07141
500µA
450µA
400µA
350µA
300µA
250µA
200µA
150µA
100µA
50µA
IB=0

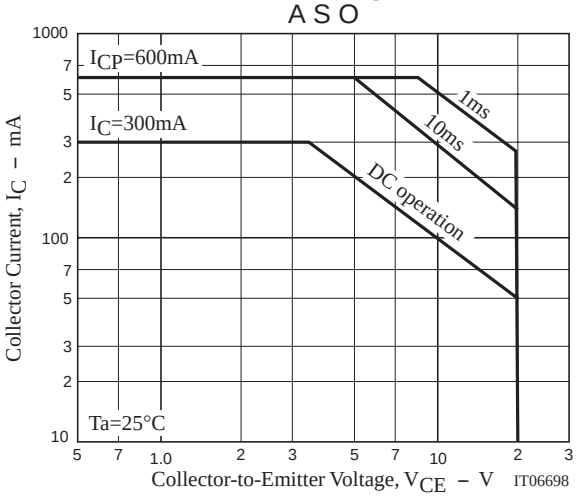

IC – VCE
Collector Current, IC – mA
Collector-to-Emitter Voltage, VCE – V
ITR07142
2.0mA
1.8mA
1.6mA
1.4mA
1.2mA
1.0mA
0.8mA
0.6mA
0.4mA
0.2mA
IB=0

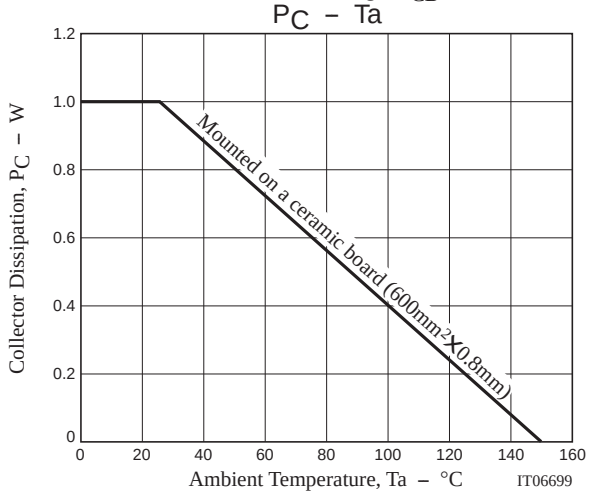

hFE – IC
DC Current Gain, hFE
Collector Current, IC – mA
ITR07143
VCE=5V


fT – IC
Gain-Bandwidth Product, fT – GHz
Collector Current, IC – mA
ITR07144
VCE=5V


VCE(sat) – IC
Collector-to-Emitter Saturation Voltage, VCE(sat) – V
Collector Current, IC – mA
ITR07145
IC / IB=10


Cob, Cre – VCB
Cob, Cre – pF
Collector-to-Base Voltage, VCB – V
ITR07146
f=1MHz
Cob
Cre


A S O
Collector Current, IC – mA
Collector-to-Emitter Voltage, VCE – V
IT06698
ICP=600mA
IC=300mA
1ms
10ms
DC operation
Ta=25°C


PC – Ta
Collector Dissipation, PC – W
Ambient Temperature, Ta – °C
IT06699
Mounted on a ceramic board (600mm2X0.8mm)