Ordering number : ENN7523

NPN Epitaxial Planar Silicon Transistor

30C01SS

Low-Frequency General-Purpose Amplifier Applications

Applications

- Low-frequency Amplifier, muting circuit.

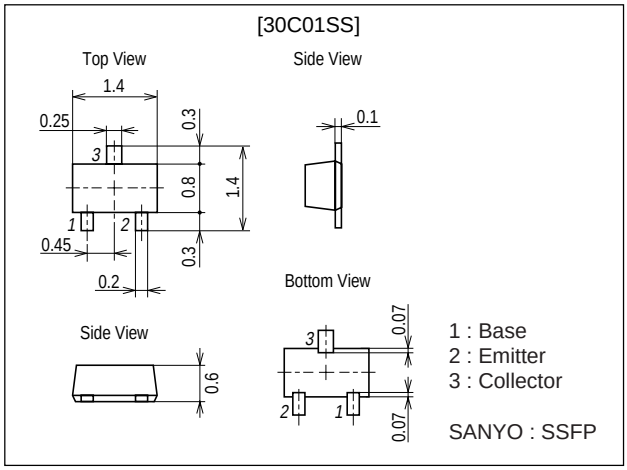
Features

- Large current capacitance.
- Low collector-to-emitter saturation voltage(resistance). R_{CE}(sat) typ=0.70Ω[I_C=0.4A, I_B=20mA].
- Ultrasmall and thin flat lead package (1.4mm×0.8mm×0.6mm).
- Small ON-resistance (Ron).

Package Dimensions

unit : mm

2159A



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}		5	V
Collector Current	I_C		400	mA
Collector Current (Pulse)	I_{CP}		800	mA
Collector Dissipation	P_C	Mounted on a glass epoxy board (20×30×1.6mm)	200	mW
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}=30V, I_E=0			0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=4V, I_C=0			0.1	μA
DC Current Gain	h_{FE}	V_{CE}=2V, I_C=10mA	300		800	
Gain-Bandwidth Product	f_T	V_{CE}=10V, I_C=50mA		380		MHz
Output Capacitance	Cob	V_{CB}=10V, f=1MHz		2.4		pF
Collector-to-Emitter Saturation Voltage	V_{CE}(sat)	I_C=100mA, I_B=5mA		100	200	mV
Base-to-Emitter Saturation Voltage	V_{BE}(sat)	I_C=100mA, I_B=5mA		0.9	1.2	V

Marking : YQ

Continued on next page.

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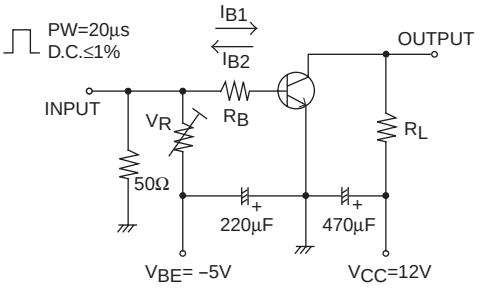
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

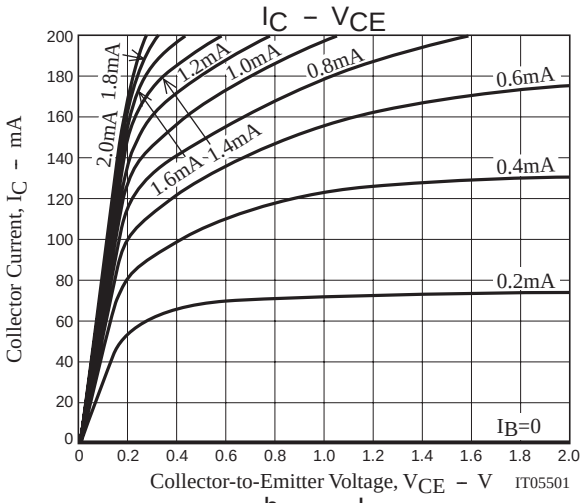
Continued from preceding page.

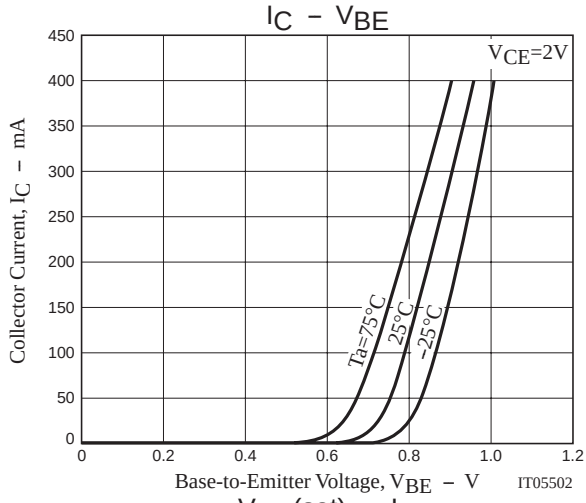
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=10μA, I_E=0	40			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=1mA, R_{BE}=∞	30			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=10μA, I_C=0	5			V
Turn-ON Time	t_{on}	See specified Test Circuit.		42		ns
Storage Time	t_{stg}	See specified Test Circuit.		135		ns
Fall Time	t_f	See specified Test Circuit.		90		ns

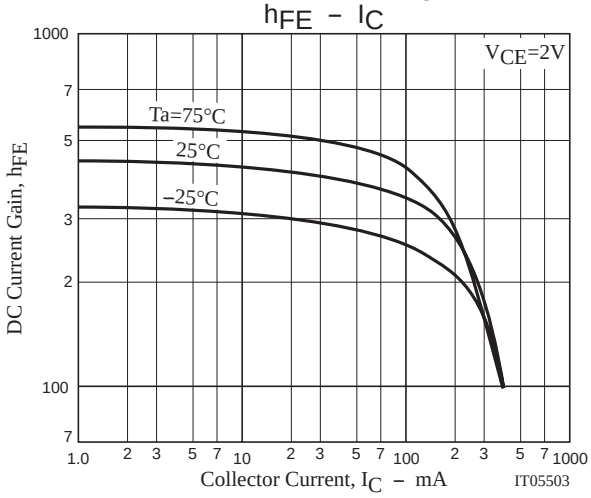
Switching Time Test Circuit

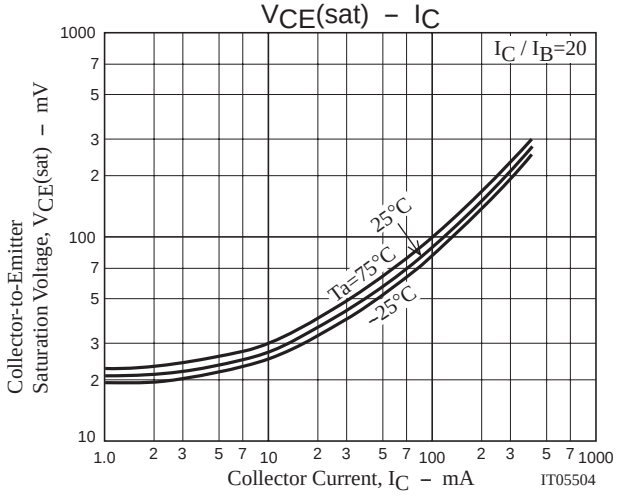


I_C=20I_{B1}= −20I_{B2}=300mA

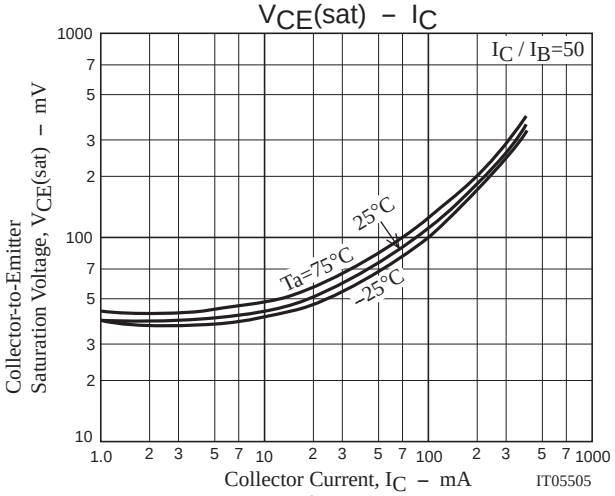




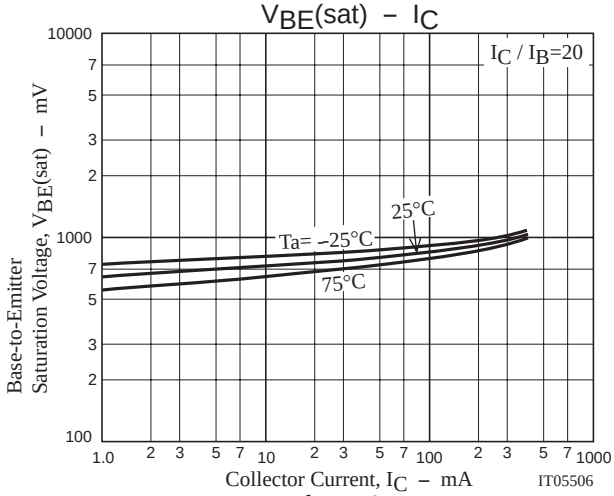




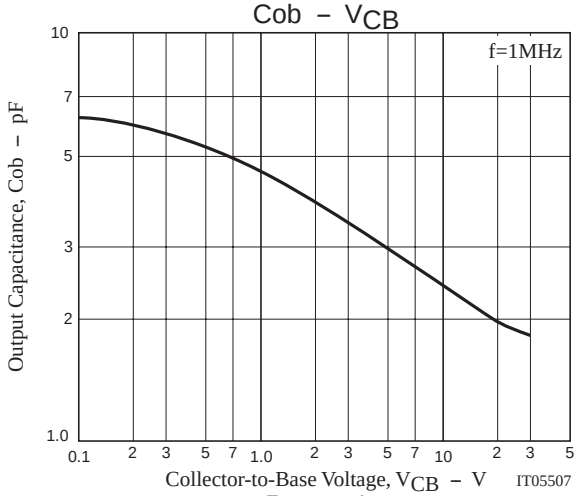
$V_{CE}(sat)$ – I_C



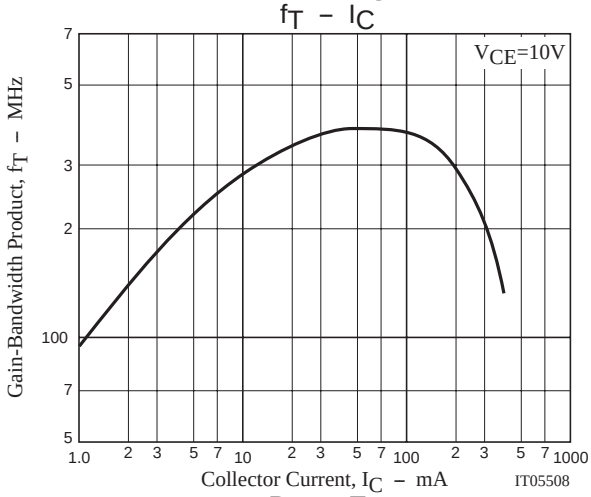
$V_{BE}(sat)$ – I_C



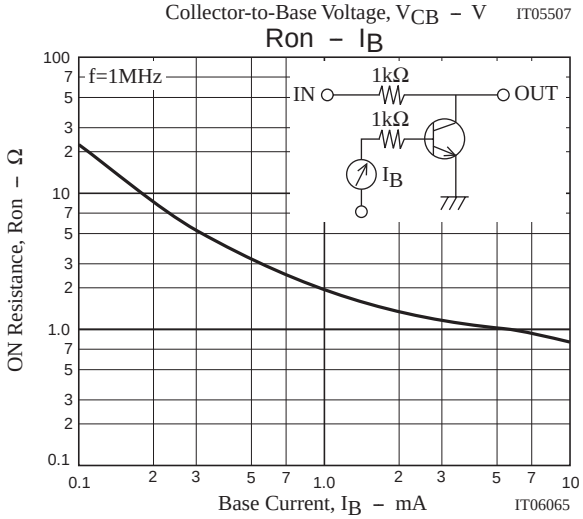
Cob – V_{CB}



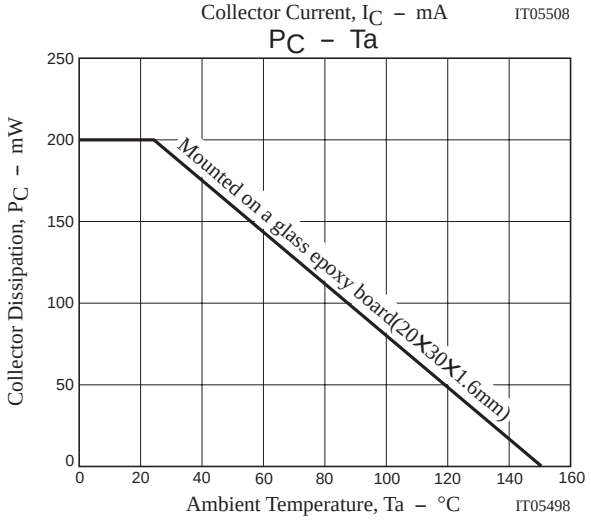
f_T – I_C



Ron – I_B



P_C – Ta



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