



30C01C

Low-Frequency General-Purpose Amplifier Applications

Applications

- Low-frequency Amplifier, muting circuit.

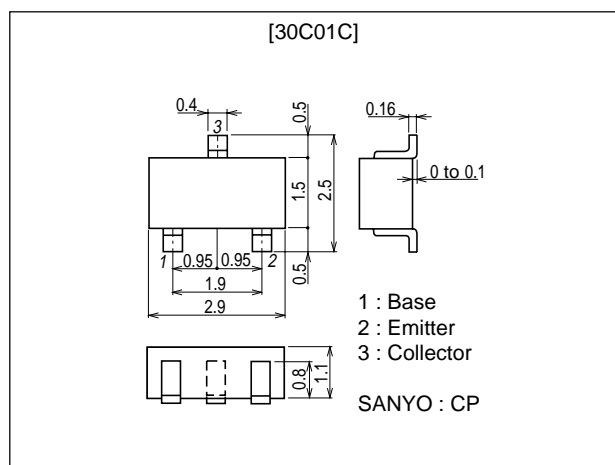
Features

- Large current capacitance.
- Low collector-to-emitter saturation voltage (resistance).
R_{CE(sat)} typ=0.70Ω [I_C=0.4A, I_B=20mA].
- Ultrasmall package facilitates miniaturization in end products.
- Small ON-resistance (Ron).

Package Dimensions

unit : mm

2018B



Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CB0}		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 (20X30X1.6mm)	300	mW
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I _{CB0}	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	C _{ob}	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

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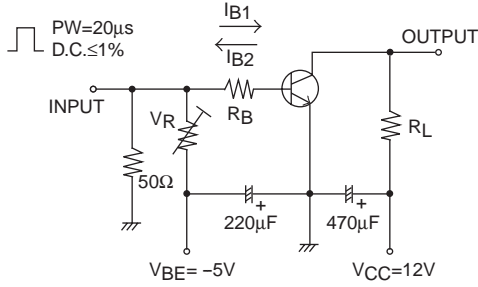
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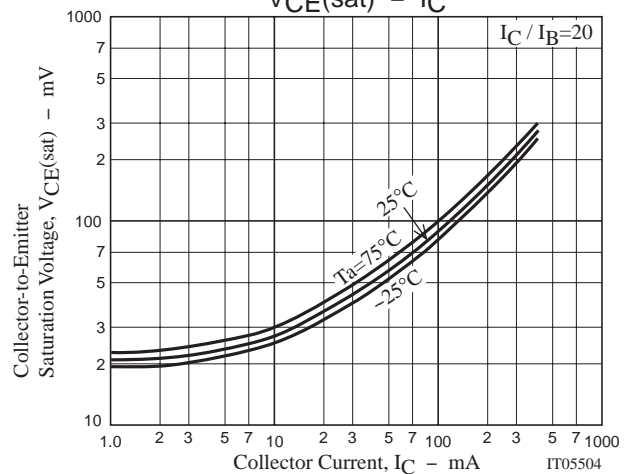
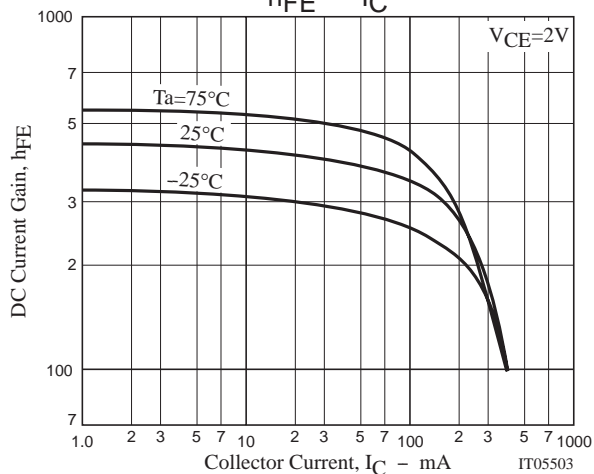
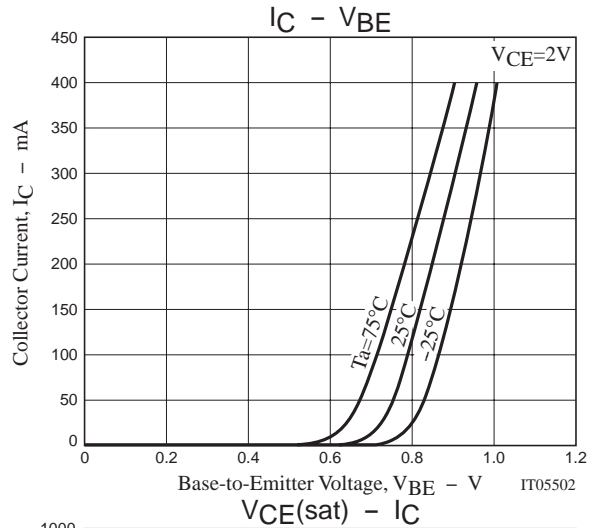
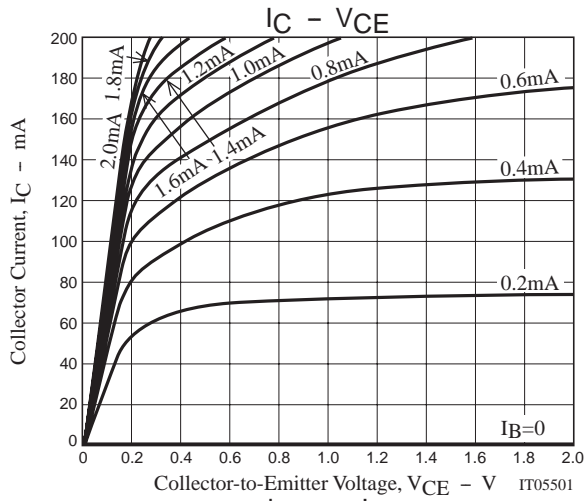
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	40			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	30			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	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

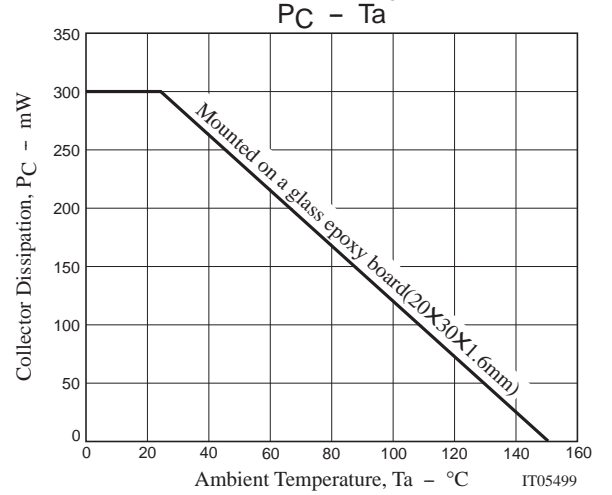
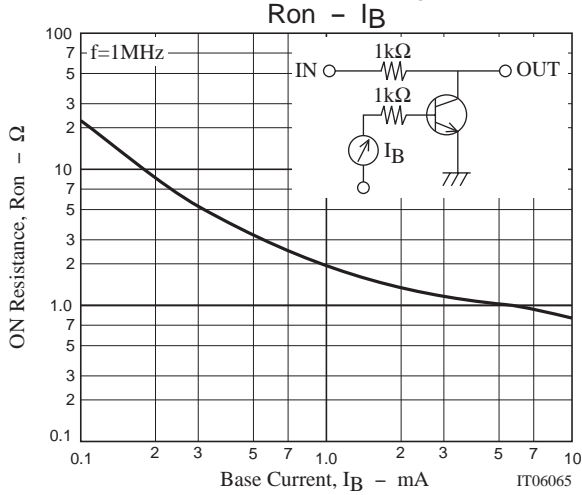
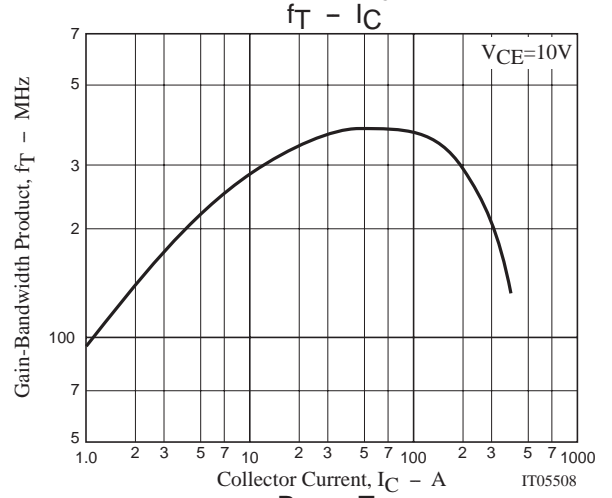
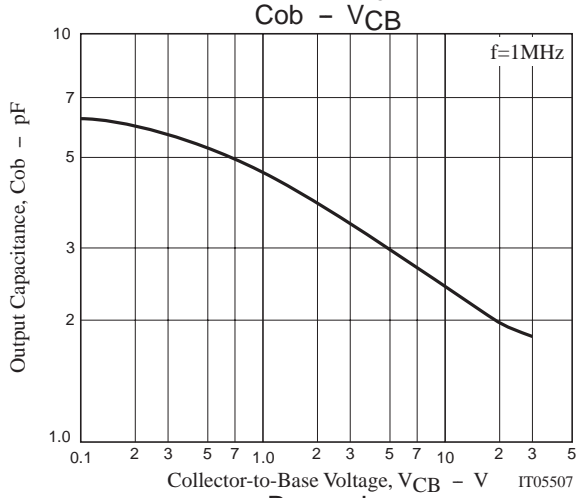
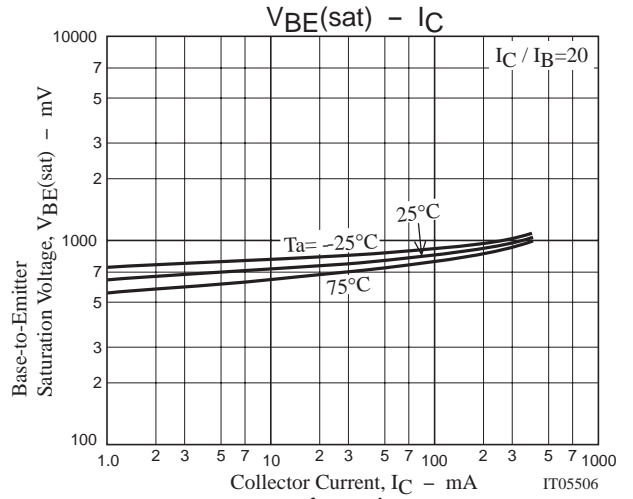
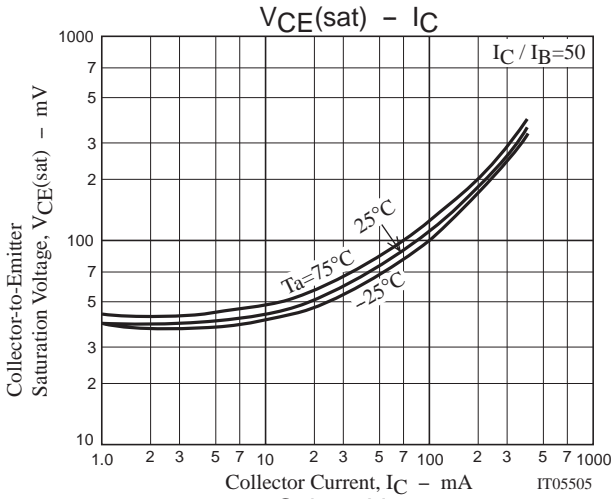
Switching Time Test Circuit



$$I_C = 20I_{B1} = -20I_{B2} = 300mA$$



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