

**30C02S**

Low-Frequency General-Purpose Amplifier Applications

Applications

- Low-frequency Amplifier, high-speed switching, small motor drive.

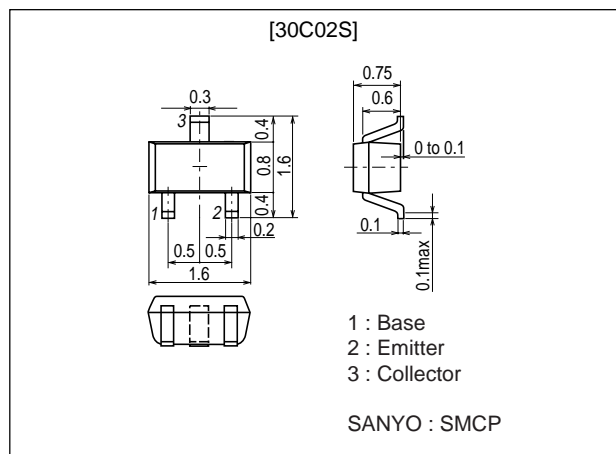
Features

- Large current capacitance.
- Low collector-to-emitter saturation voltage (resistance).
RCE(sat) typ=330mΩ[IC=0.7A, IB=35mA].
- Ultrasmall package facilitates miniaturization in end products.
- Small ON-resistance (Ron).

Package Dimensions

unit : mm

2106A



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		600	mA
Collector Current (Pulse)	I _{CP}		1.2	A
Collector Dissipation	P _C	Mounted on a glass-epoxy board (20X30X1.6mm)	200	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			100	nA
Emitter Cutoff Current	I _{EBO}	V _{EB} =4V, I _C =0			100	nA
DC Current Gain	h _{FE}	V _{CE} =2V, I _C =50mA	300		800	
Gain-Bandwidth Product	f _T	V _{CE} =10V, I _C =50mA		540		MHz

Marking : YM

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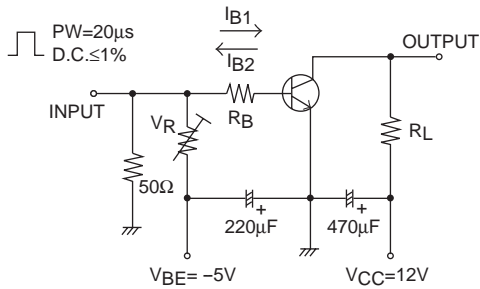
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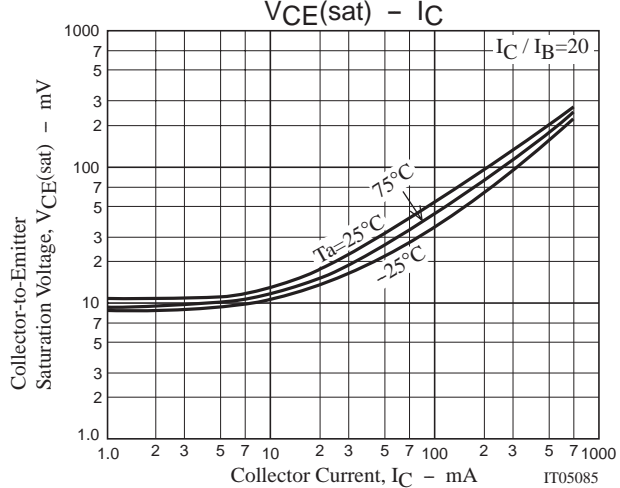
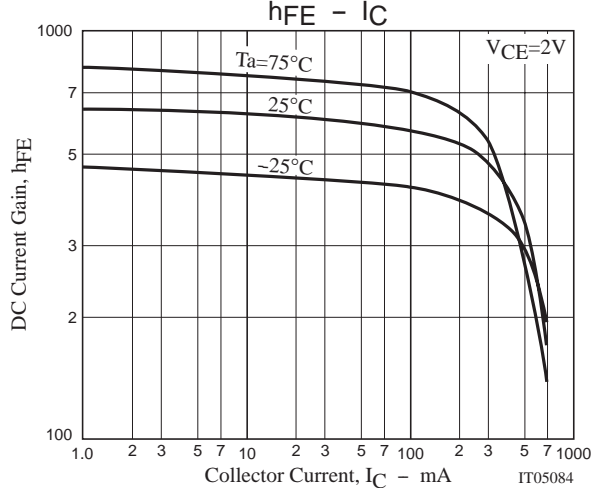
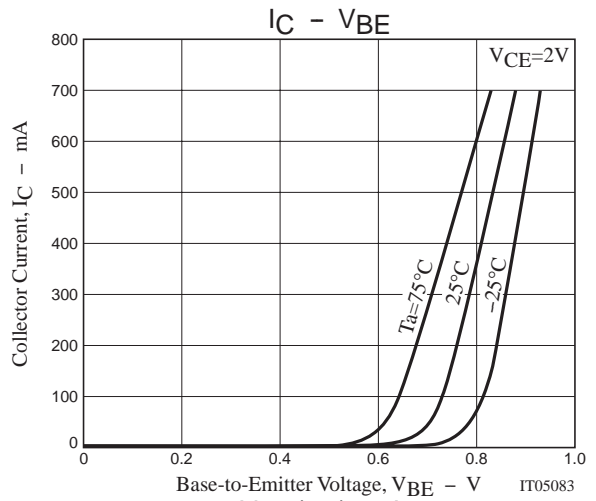
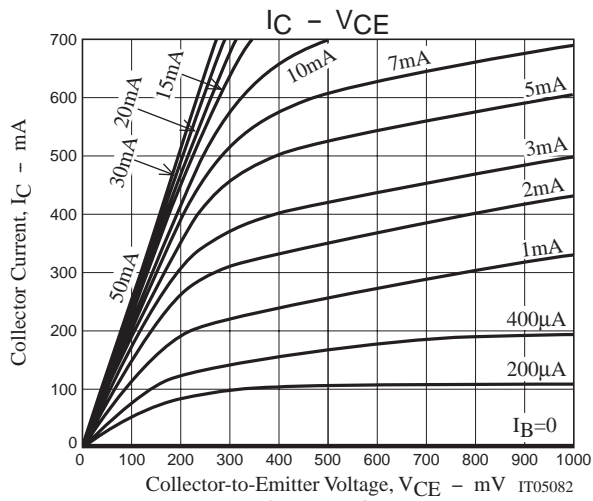
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output Capacitance	Cob	V _{CE} =10V, f=1MHz		3.3		pF
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =200mA, I _B =10mA		85	190	mV
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =200mA, I _B =10mA		0.9	1.2	V
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.		35		ns
Storage Time	t _{stg}	See specified Test Circuit.		255		ns
Fall Time	t _f	See specified Test Circuit.		40		ns

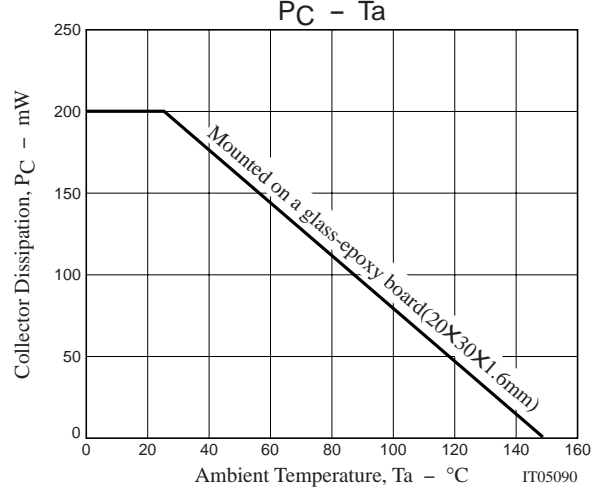
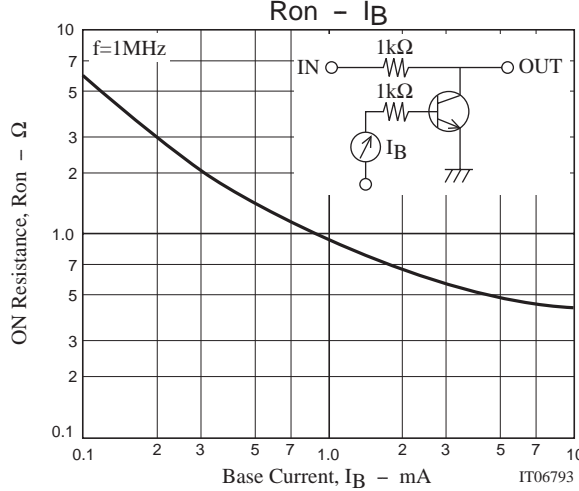
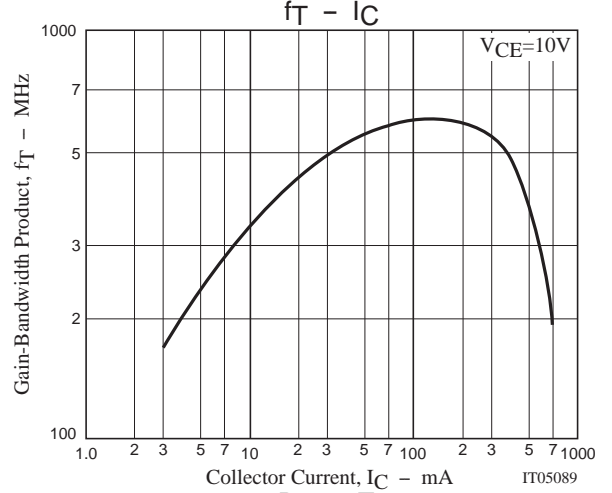
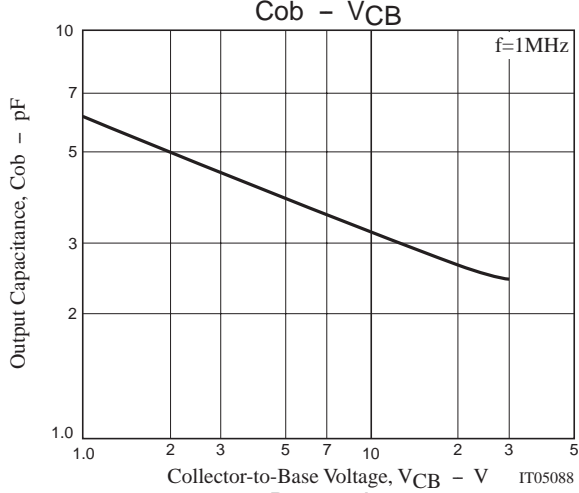
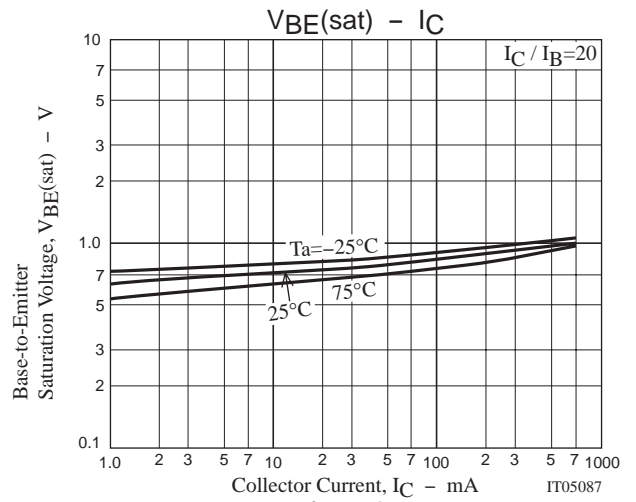
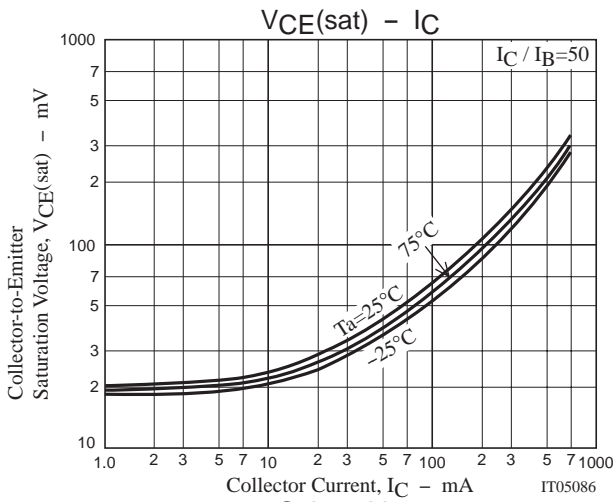
Switching Time Test Circuit



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



30C02S



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