


SANYO Semiconductors

DATA SHEET

30C02MH — NPN Epitaxial Planar Silicon Transistor

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) : $R_{CE(sat)}$ typ=330m Ω [$I_C=0.7A$, $I_B=35mA$].
- Ultrasmall package facilitates miniaturization in end products.
- Small ON-resistance (R_{on}).

Specifications

Absolute Maximum Ratings at $T_a=25^\circ C$

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		700	mA
Collector Current (Pulse)	I_{CP}		1.4	A
Collector Dissipation	P_C	When mounted on ceramic substrate (600mm ² ×0.8mm)	600	mW
Junction Temperature	T_j		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

Marking : CL

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<http://semicon.sanyo.com/en/network>

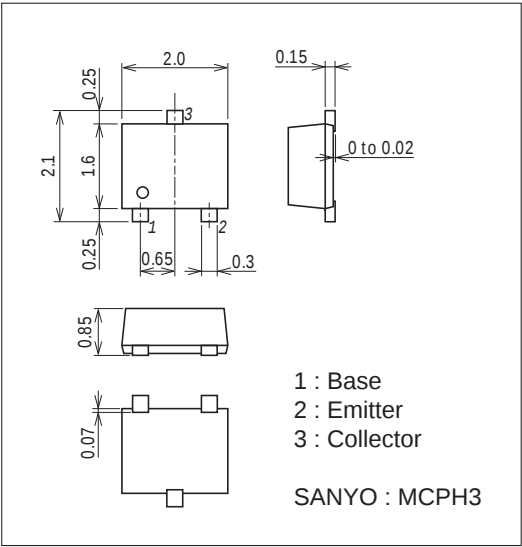
30C02MH

Electrical Characteristics at Ta=25°C

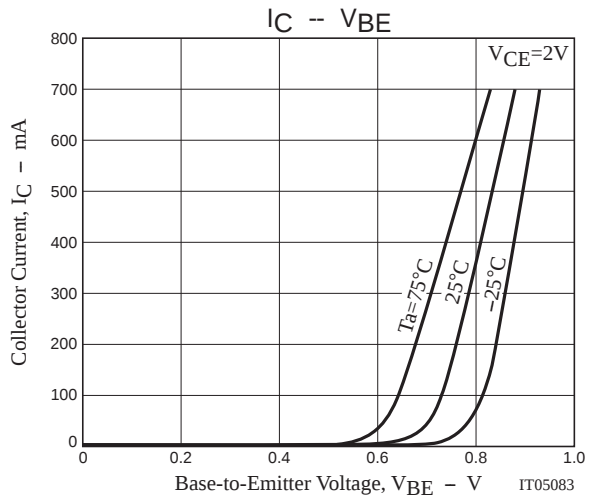
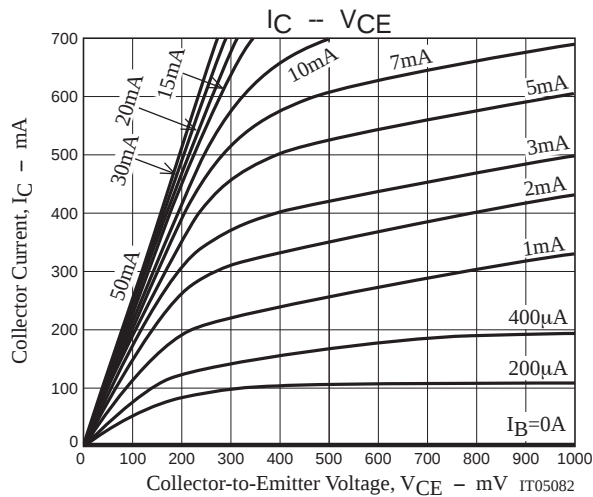
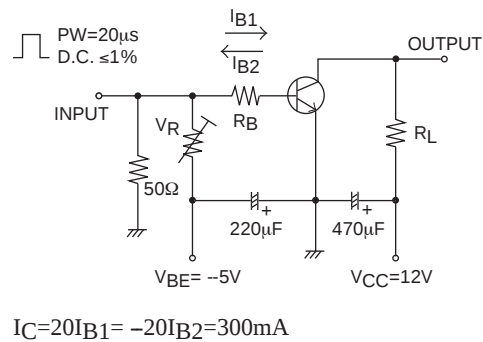
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	VCE=30V, IE=0A			100	nA
Emitter Cutoff Current	IEBO	VEB=4V, IC=0A			100	nA
DC Current Gain	hFE	VCE=2V, IC=50mA	300		800	
Gain-Bandwidth Product	fT	VCE=10V, IC=50mA		540		MHz
Output Capacitance	Cob	VCE=10V, f=1MHz		3.3		pF
Collector-to-Emitter Saturation Voltage	VCE(sat)	IC=200mA, IB=10mA		85	190	mV
Base-to-Emitter Saturation Voltage	VEB(sat)	IC=200mA, IB=10mA		0.9	1.2	V
Collector-to-Base Breakdown Voltage	V(BR)CBO	IC=10μA, IE=0A	40			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	IC=1mA, RBE=∞	30			V
Emitter-to-Base Breakdown Voltage	V(BR)EBO	IE=10μA, IC=0A	5			V
Turn-On Time	ton	See specified Test Circuit.		35		ns
Storage Time	tstg	See specified Test Circuit.		255		ns
Fall Time	tf	See specified Test Circuit.		40		ns

Package Dimensions

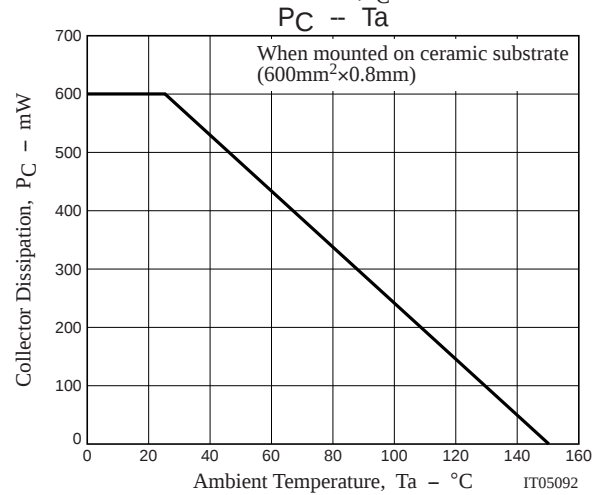
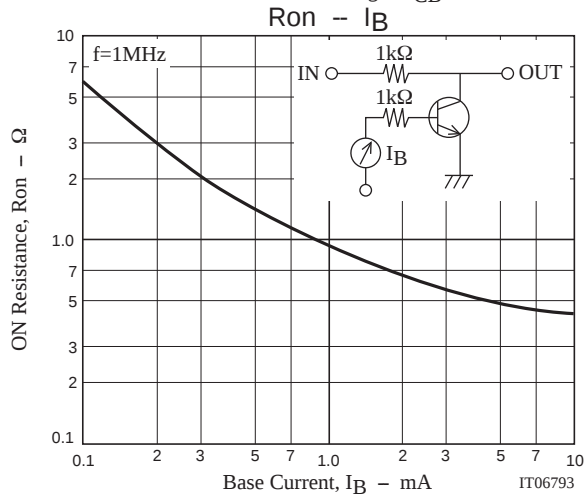
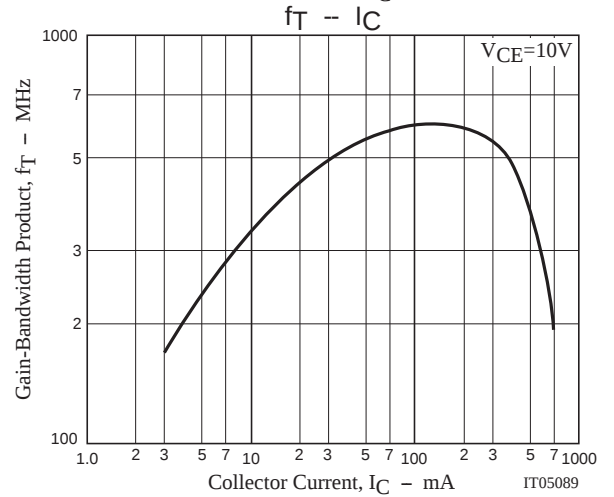
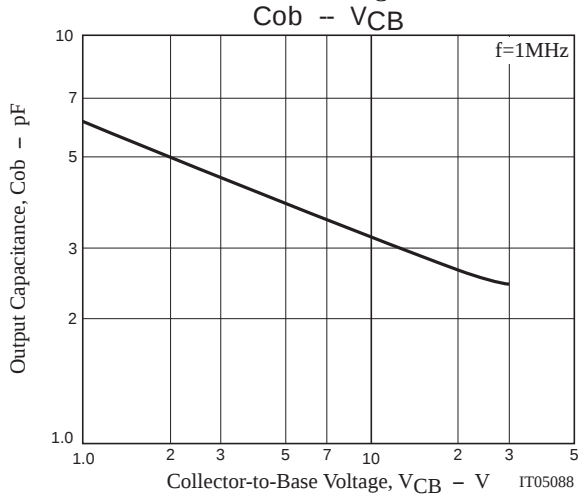
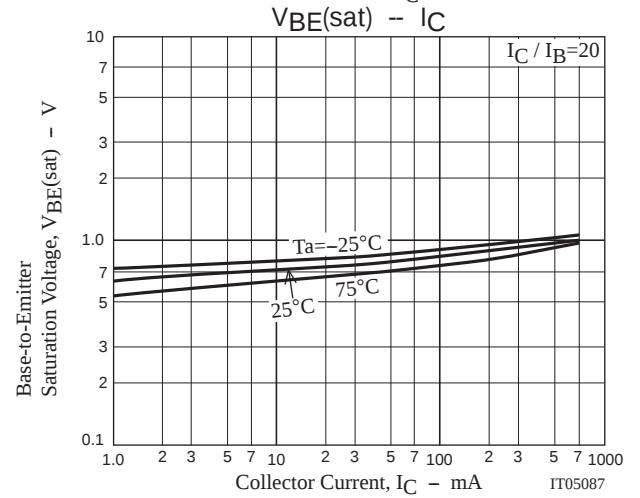
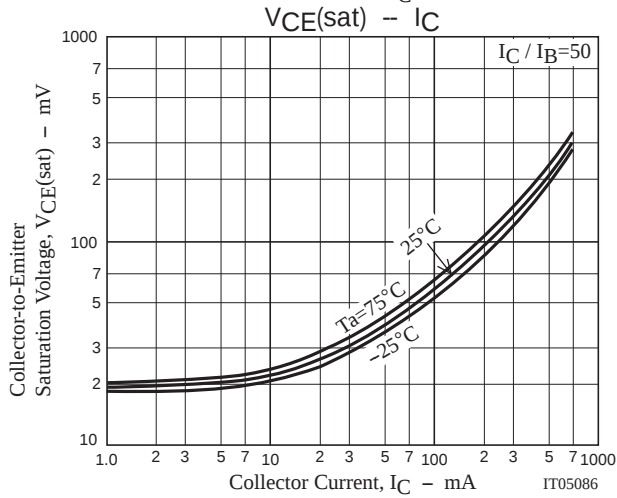
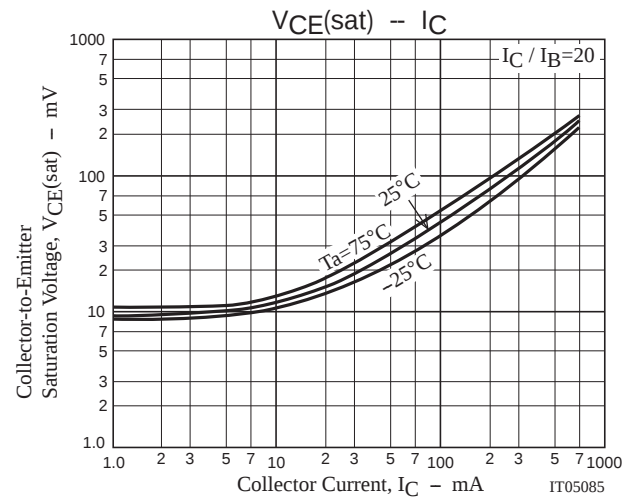
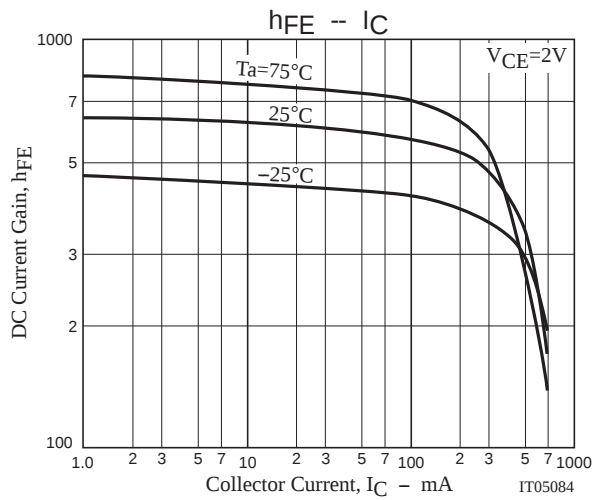
unit : mm (typ)
7019A-004



Switching Time Test Circuit



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