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SANYO Semiconductors

## DATA SHEET

# 4MN10CH — High-Frequency General-Purpose Amplifier Applications

NPN Epitaxial Planar Silicon Transistor

## Features

- High  $f_T$  :  $f_T=400\text{MHz}$  (typ).
- High breakdown voltage :  $V_{CE0} \geq 200\text{V}$ .
- Small reverse transfer capacitance and excellent high-frequency characteristic :  $C_{re}=1.4\text{pF}$ .

## Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CBO}$		200	V
Collector-to-Emitter Voltage	$V_{CEO}$		200	V
Emitter-to-Base Voltage	$V_{EBO}$		4	V
Collector Current	$I_C$		100	mA
Collector Current (Pulse)	$I_{CP}$		200	mA
Collector Dissipation	$P_C$	Mounted on a ceramic board (600mm <sup>2</sup> X0.8mm)	600	mW
Junction Temperature	$T_J$		150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

Electrical Characteristics at  $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=150\text{V}, I_E=0\text{A}$			0.1	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=2\text{V}, I_C=0\text{A}$			1.0	$\mu\text{A}$
DC Current Gain	$h_{FE1}$	$V_{CE}=10\text{V}, I_C=10\text{mA}$	60		200	
	$h_{FE2}$	$V_{CE}=10\text{V}, I_C=60\text{mA}$	20			
Gain-Bandwidth Product	$f_T$	$V_{CE}=30\text{V}, I_C=30\text{mA}$		400		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=30\text{mA}, I_B=3\text{mA}$			0.6	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu\text{A}, I_E=0\text{A}$	200			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, R_{BE}=\infty$	200			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0\text{A}$	4			V
Output Capacitance	$C_{ob}$	$V_{CB}=30\text{V}, f=1\text{MHz}$		1.8		pF
Reverse Transfer Capacitance	$C_{re}$	$V_{CB}=30\text{V}, f=1\text{MHz}$		1.4		pF

Marking : GL

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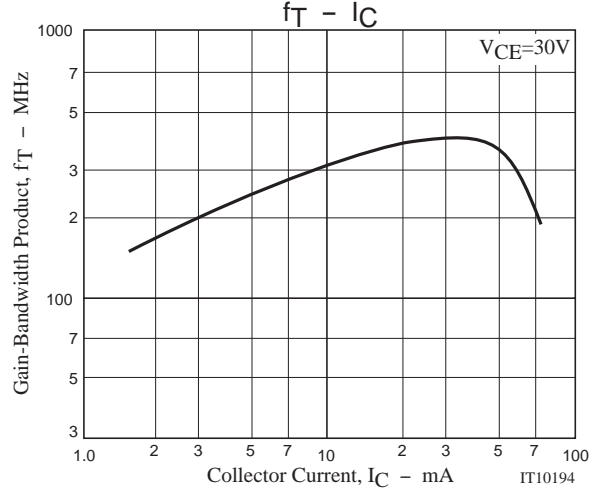
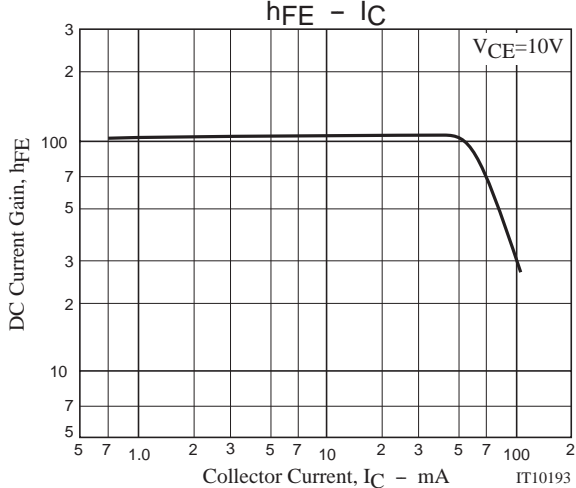
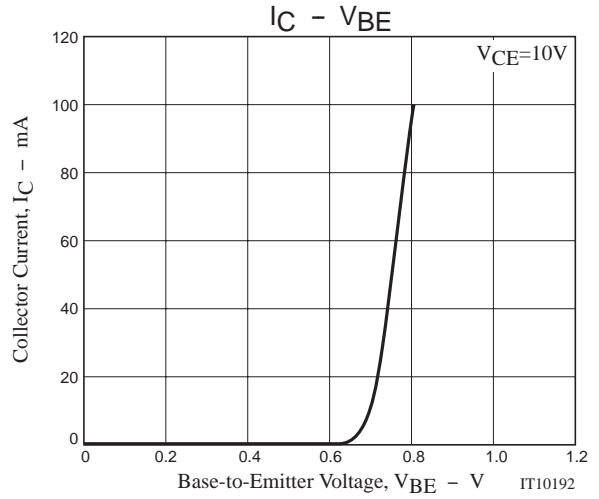
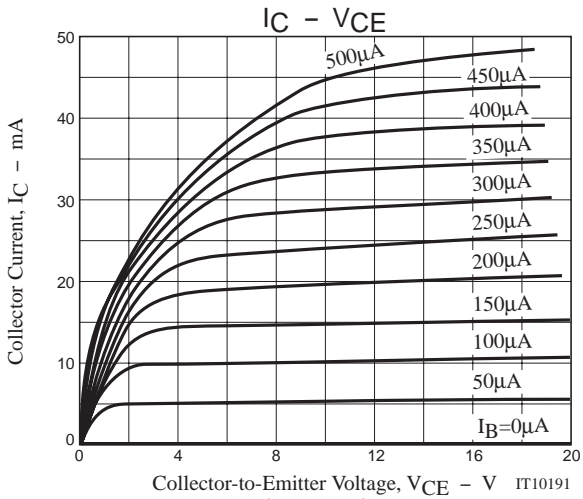
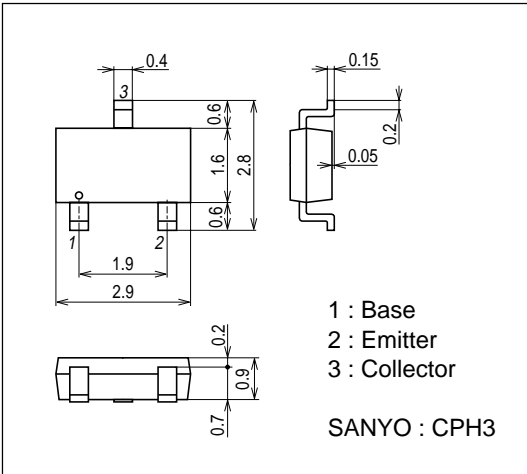
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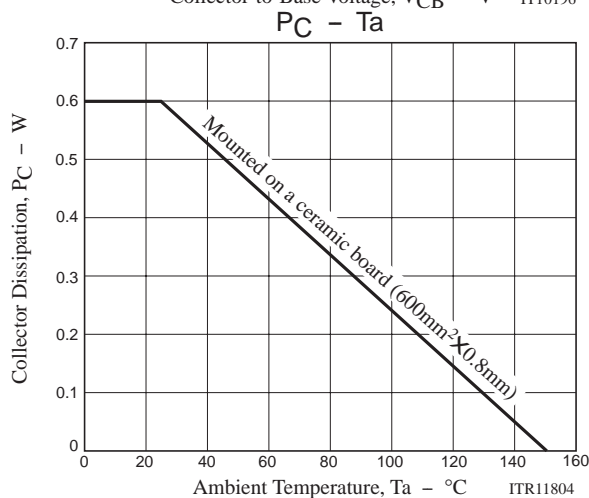
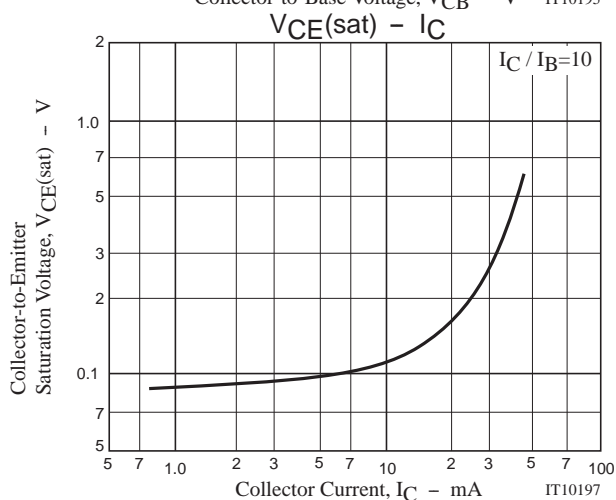
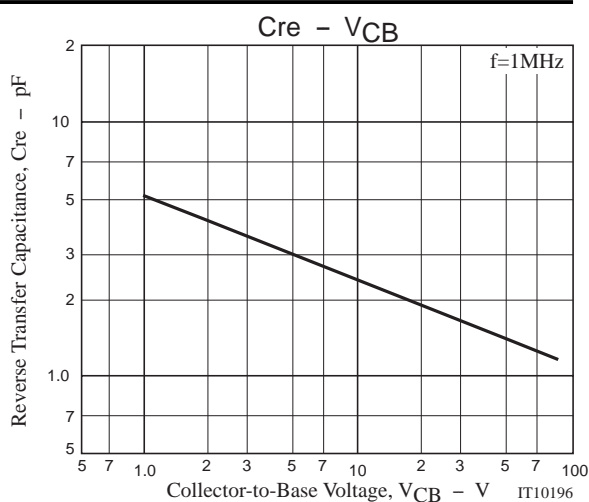
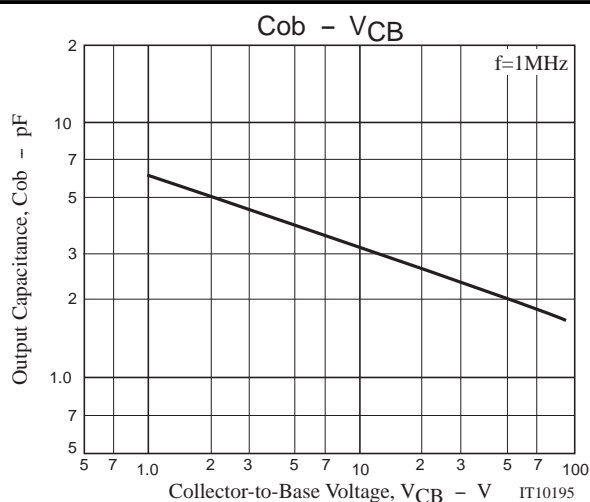
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**Package Dimensions**

unit : mm  
7015-003





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