



SANYO Semiconductors

DATA SHEET

NPN Epitaxial Planar Silicon Transistors

4MN10MH — High-Frequency General-Purpose Amplifier Applications

Features

- High f_T : $f_T=400\text{MHz}$ (typ).
- High breakdown voltage : $V_{CEO} \geq 200\text{V}$.
- Small reverse transfer capacitance and excellent high-frequency characteristic : $C_{re}=1.4\text{pF}$.
- Complementary pair with to 4MP10MH.

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 $\times$ 0.8mm)	400	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	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=2\text{V}$, $I_C=0\text{A}$			1.0	μA
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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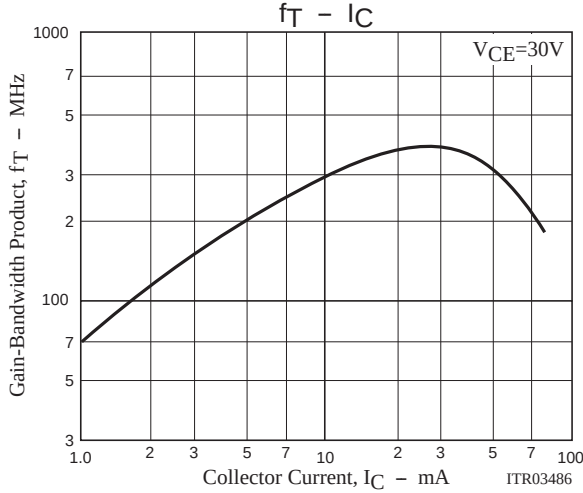
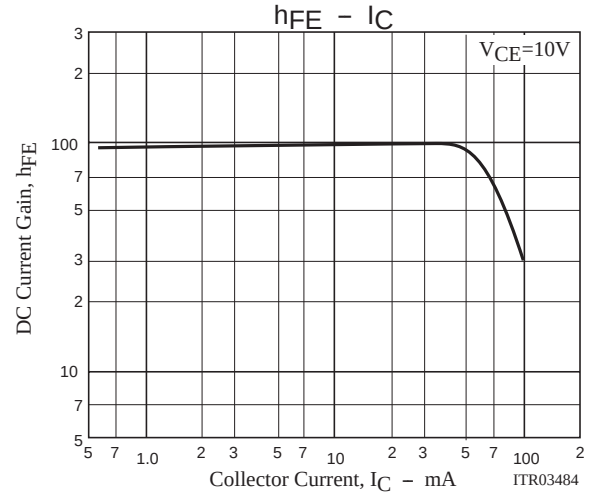
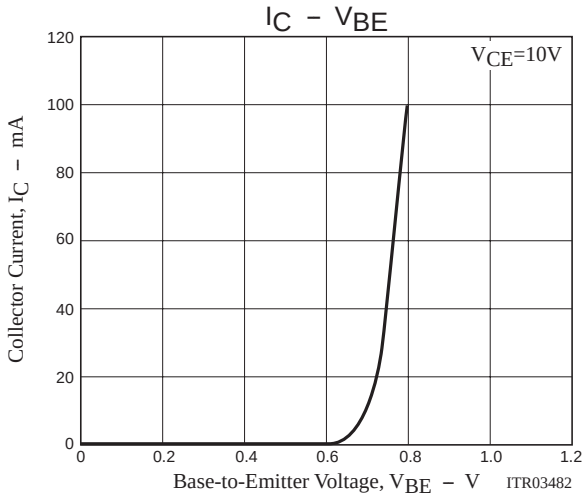
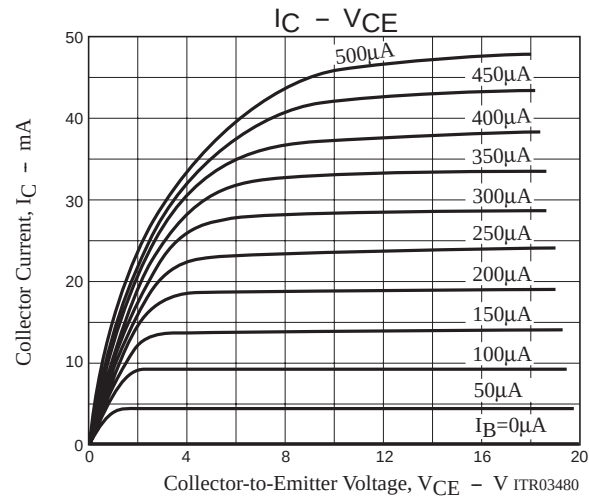
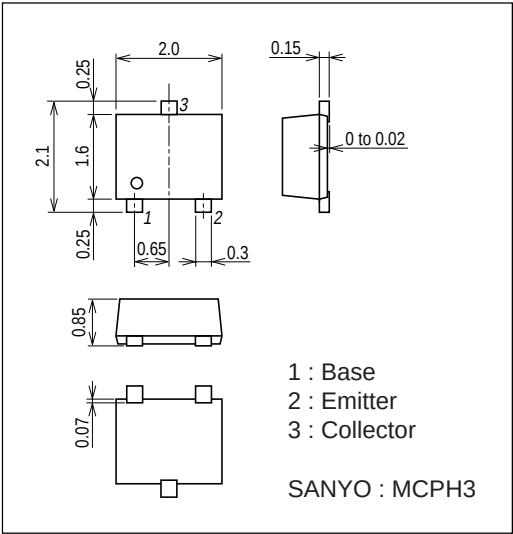
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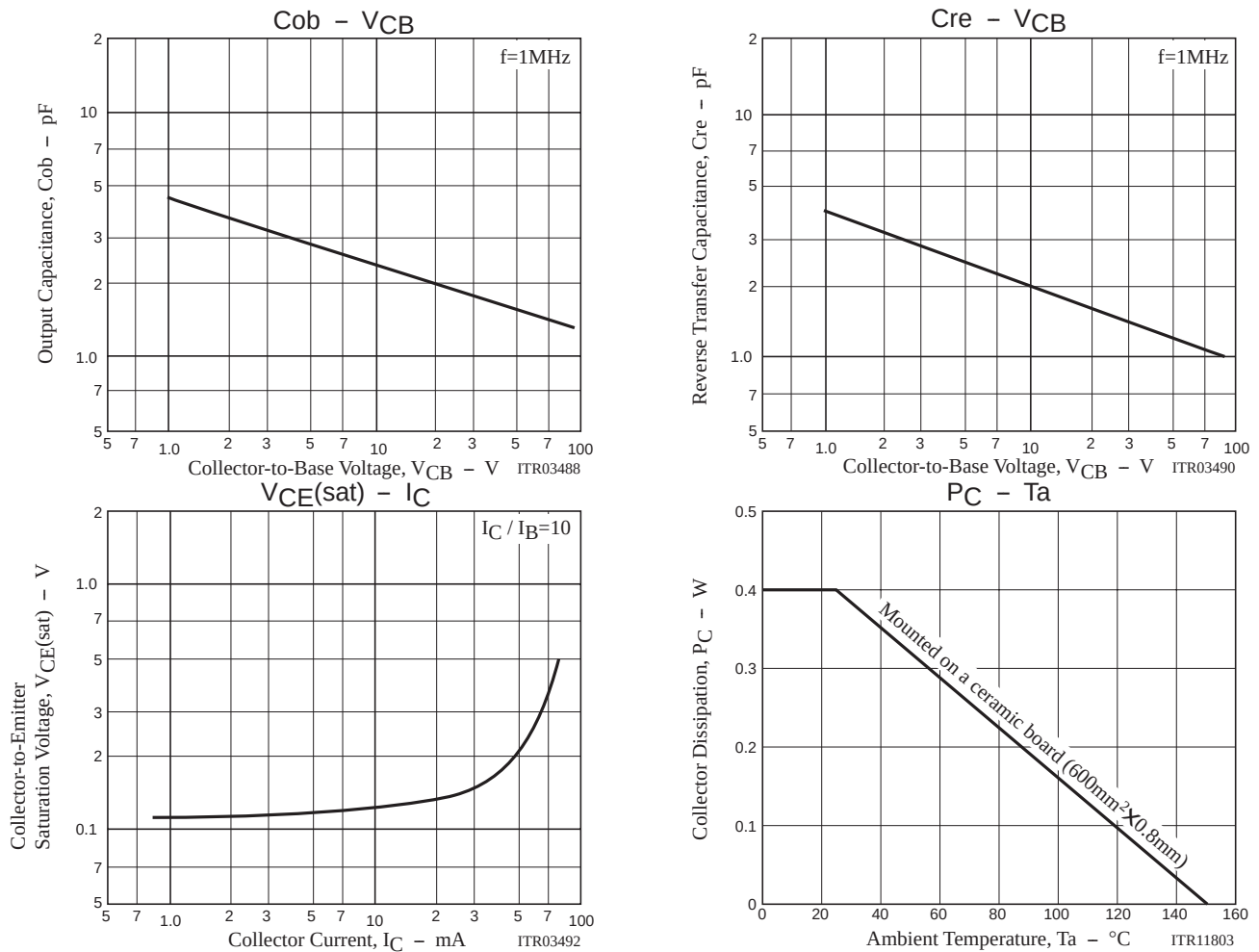
4MN10MH

Package Dimensions

unit : mm (typ)
7019A-004



4MN10MH



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