



7MN05S — High-Frequency General-Purpose Amplifier Applications

NPN Epitaxial Planar Silicon Transistor

Features

- High power gain.
- High f_T ($f_T=750\text{MHz}$).
- Complementary pair with the 7MP05S.
- Ultrasmall-sized package permitting 7MN05S applied sets to made small and slim.

Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		40	V
Collector-to-Emitter Voltage	V_{CEO}		18	V
Emitter-to-Base Voltage	V_{EBO}		3	V
Collector Current	I_C		50	mA
Collector Dissipation	P_C	Mounted on a ceramic board (600mm \times 0.8mm)	150	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_{CB0}	$V_{CB}=18\text{V}, I_E=0\text{A}$			0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=2\text{V}, I_C=0\text{A}$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=10\text{V}, I_C=5\text{mA}$	60		200	
Gain-Bandwidth Product	f_T	$V_{CE}=10\text{V}, I_C=5\text{mA}$		750		MHz
Output Capacitance	C_{ob}	$V_{CB}=10\text{V}, f=1\text{MHz}$		0.7	1.2	pF
Reverse Transfer Capacitance	C_{re}	$V_{CE}=10\text{V}, f=1\text{MHz}$		0.45		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=10\text{mA}, I_B=1\text{mA}$			0.2	V
Voltage Gain	PG	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=100\text{MHz}$		28		dB

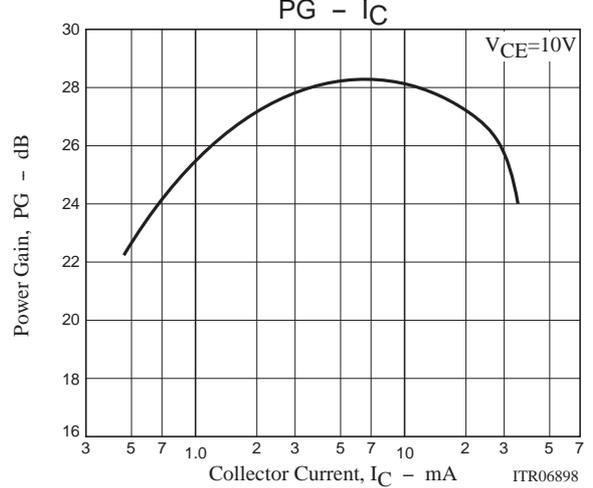
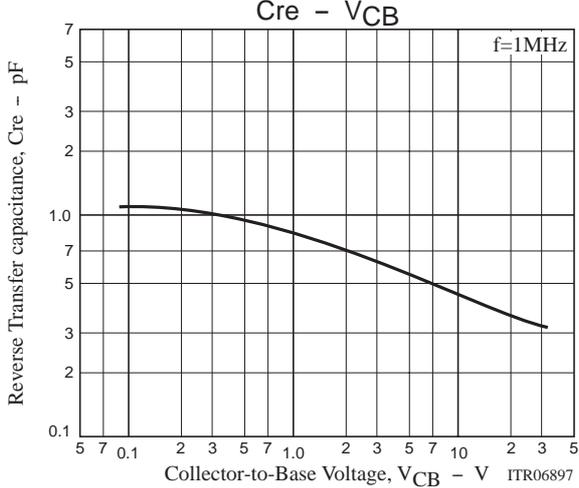
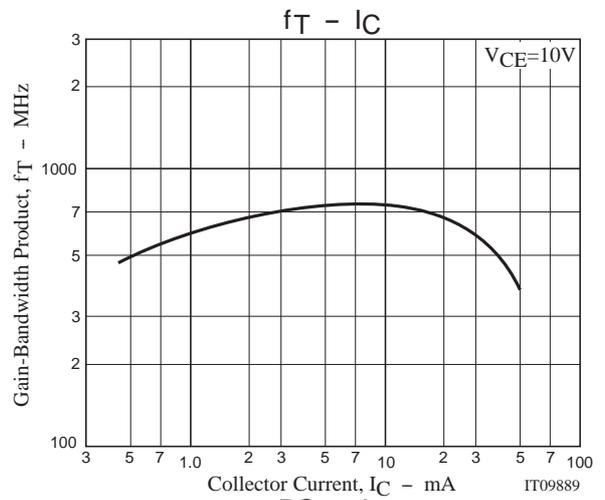
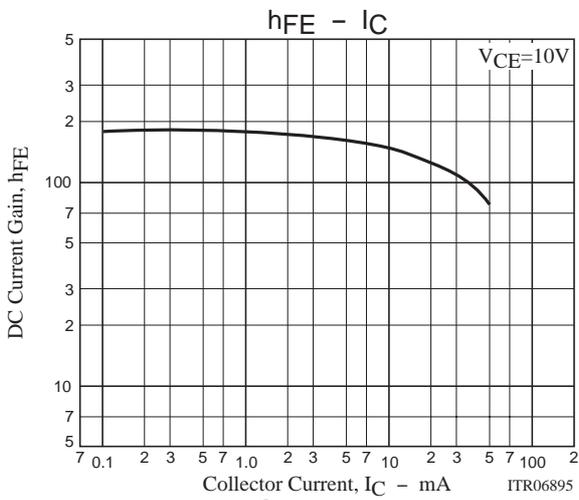
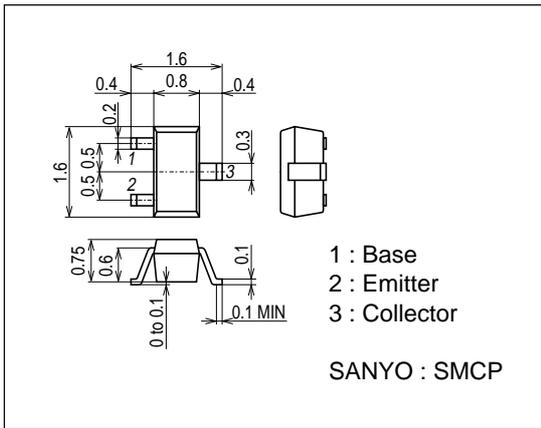
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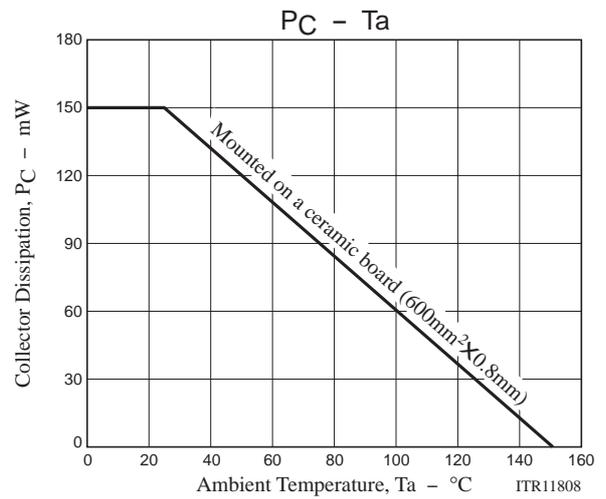
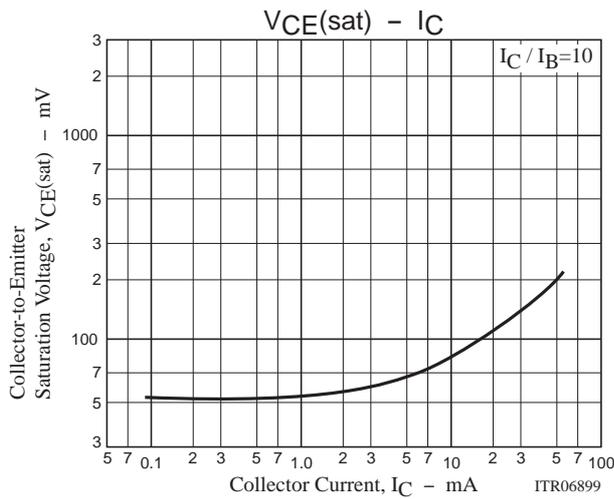
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Package Dimensions

unit : mm
7027-002



7MN05S



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