

FTB1412S TRANSISTOR (PNP)

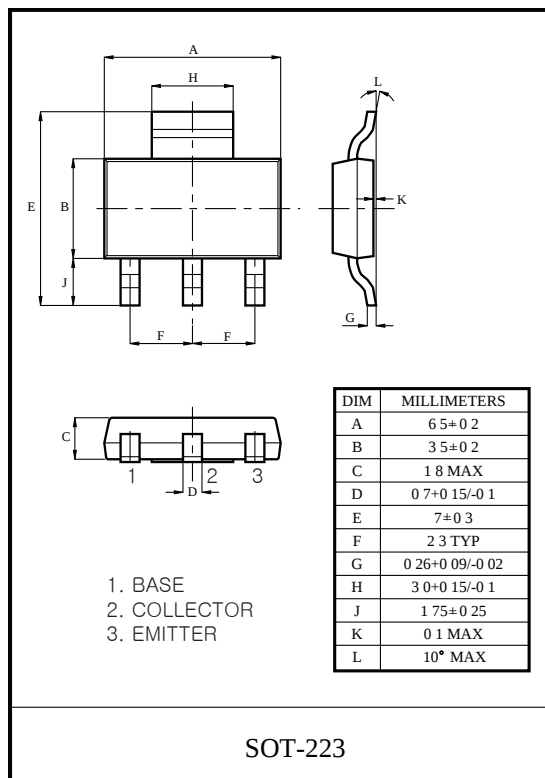
FEATURES

Power Amplifier Applications

MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-30	V
V_{CER}	Collector-Emitter Voltage	-30	V
V_{EBO}	Emitter-Base Voltage	-6	V
I_C	Collector Current –Continuous	-5	A
P_C	Collector Power Dissipation (Note 2)	1.25 ($T_a=25^\circ\text{C}$)	W
		10 ($T_c=25^\circ\text{C}$)	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55-150	$^\circ\text{C}$

Note 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.
2. When mounted on a 40*40*0.7mm ceramic board



ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-50\mu\text{A}, I_E=0$	-30			V
Collector-emitter breakdown voltage	$V_{(BR)CER}$	$I_C=-100\mu\text{A}$	-30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-50\mu\text{A}, I_C=0$	-6			V
Collector cut-off current	I_{CBO}	$V_{CB}=-20\text{V}, I_E=0$			-0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-5\text{V}, I_C=0$			-0.5	μA
DC current gain	h_{FE}	$V_{CE}=-2\text{V}, I_C=-500\text{mA}$	82		390	
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=-3\text{A}, I_B=-150\text{mA}$		-0.9	-1.2	V
Collector-emitter saturation voltage (1)	$V_{CE(sat)}$	$I_C=-3\text{A}, I_B=-150\text{mA}$			-0.4	V
Collector-emitter saturation voltage (2)	$V_{CE(sat)}$	$I_C=-4\text{A}, I_B=-100\text{mA}$			-1.0	V
Transition frequency	f_T	$V_{CE}=-6\text{V}, I_C=-50\text{mA}, f=30\text{MHz}$		120		MHz
Collector output capacitance	C_{ob}	$V_{CB}=-20\text{V}, I_E=0, f=1\text{MHz}$		60		pF

CLASSIFICATION OF h_{FE}

Rank	P	Q	R
Range	82-180	120-270	180-390

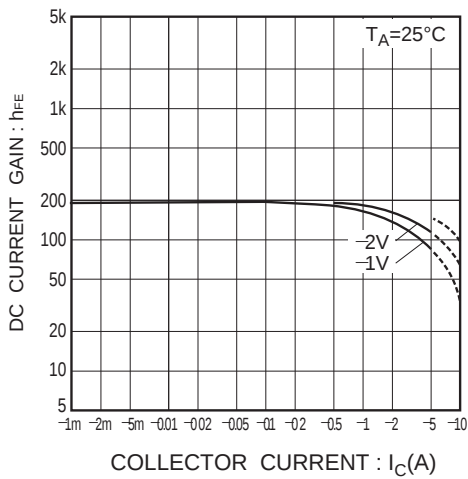


Fig.1 DC current gain vs collector current

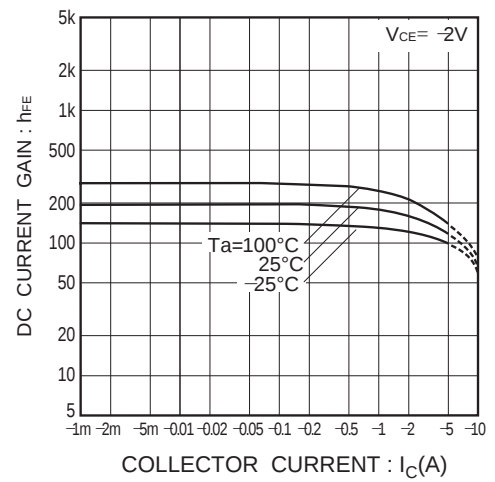


Fig.2 DC current gain vs. collector current

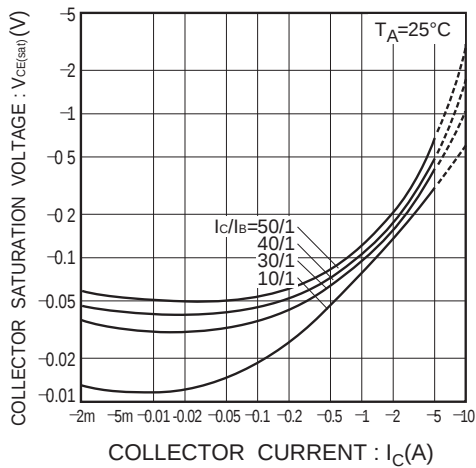


Fig.3 Collector-emitter saturation voltage vs. collector current

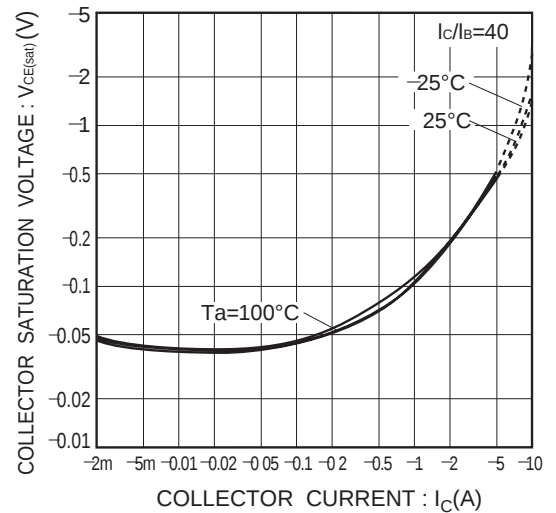


Fig.4 Collector-emitter saturation voltage vs. collector current

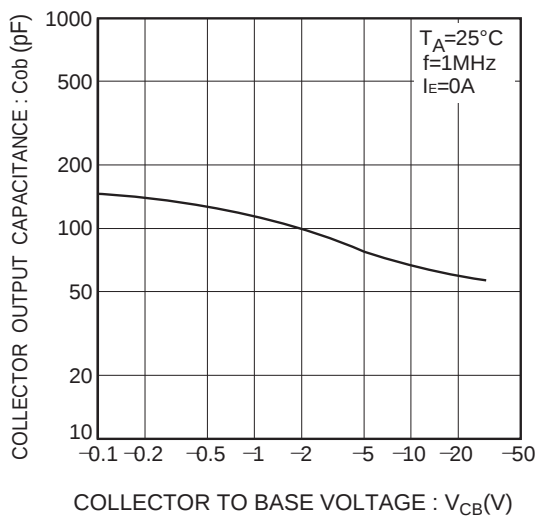


Fig.5 Collector output capacitance vs. collector-base voltage

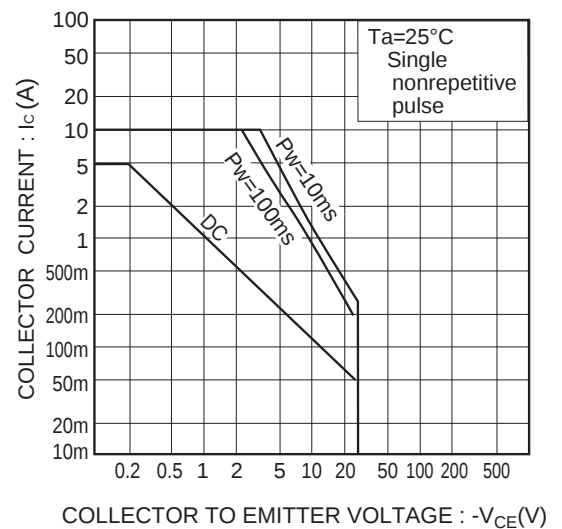


Fig.6 Safe operation area