2SD2012 TRANSISTOR (NPN)

TO-220F

FEATURES

- **Audio frequency power amplifier applications**
- **High DC current gain**
- **Low saturation voltage**
- **High power dissipation**

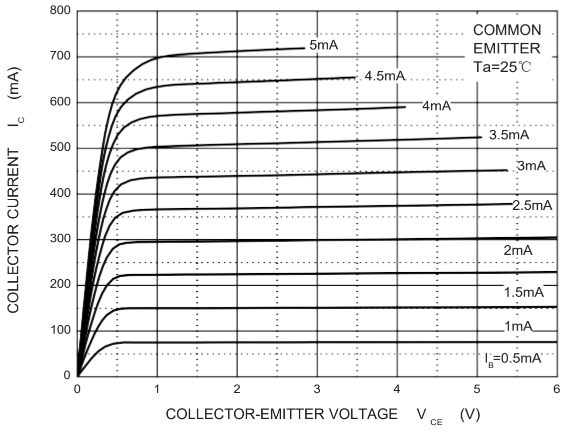
MAXIMUM RATINGS (T_A=25℃ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current -Continuous	3	A
P_C	Collector power dissipation	2	W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55-150	℃

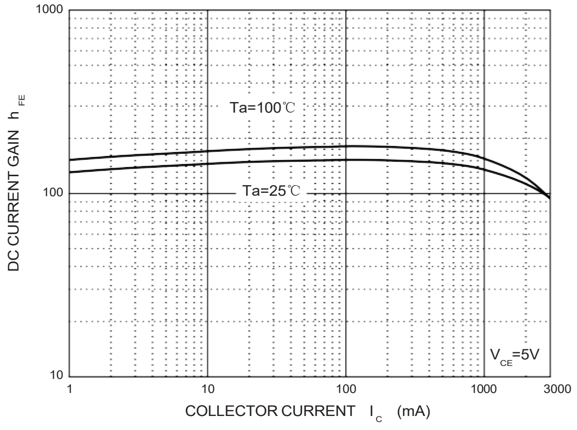
ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100μA , I_E=0	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=50mA, I_B=0[1]	60			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100μA, I_C=0	7			V
Collector cut-off current	I_{CBO}	V_{CB}=60V, I_E=0			100	μA
Emitter cut-off current	I_{EBO}	V_{EB}=7V, I_C=0			100	μA
DC current gain	h_{FE1}	V_{CE}=5V, I_C=0.5A	100		320	
	h_{FE2}	V_{CE}=5V, I_C=2A	20			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=2A, I_B=0.2A			1	V
Base-emitter voltage	V_{BE}	V_{CE}=5V, I_C=0.5A			1	V
Transition frequency	f_T	V_{CE}=5V, I_C=0.5A		3		MHz
collector capacitance	Cob	V_{CB}=10V, I_E=0,f=1MHz		35		pF

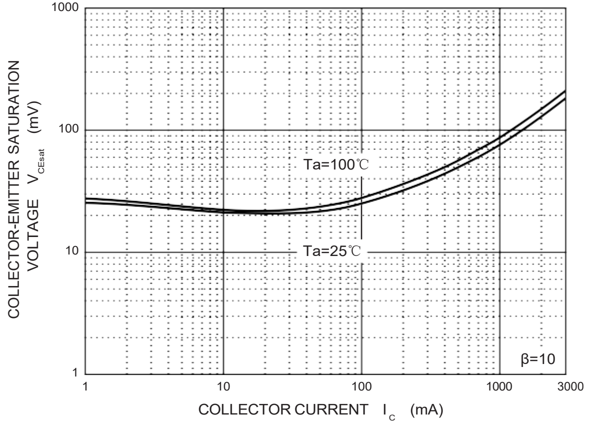
Static Characteristic



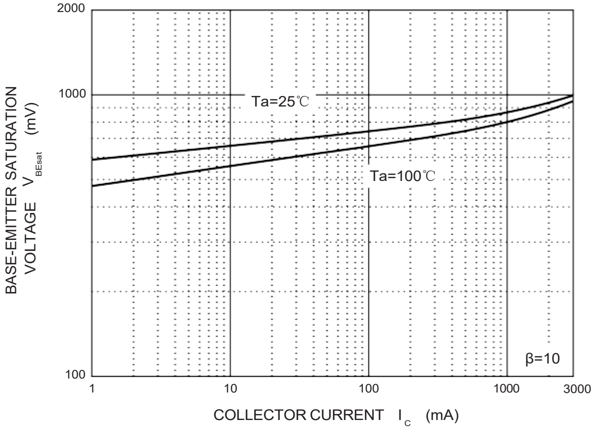
h_{FE} — I_C



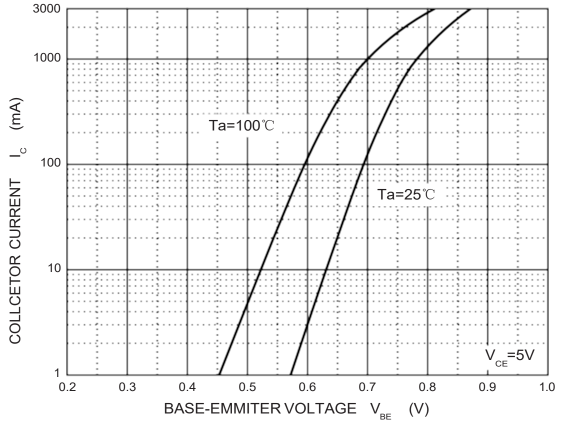
V_{CEsat} — I_C



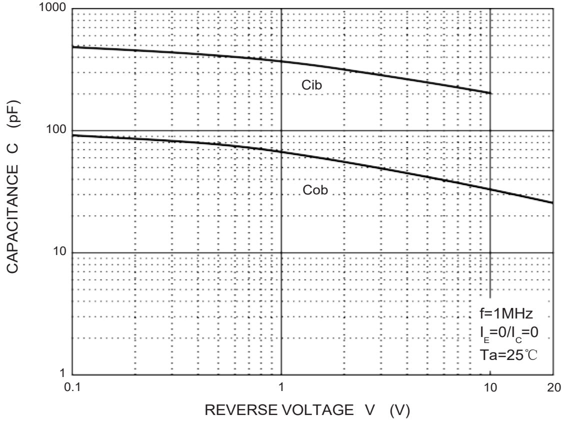
V_{BEsat} — I_C



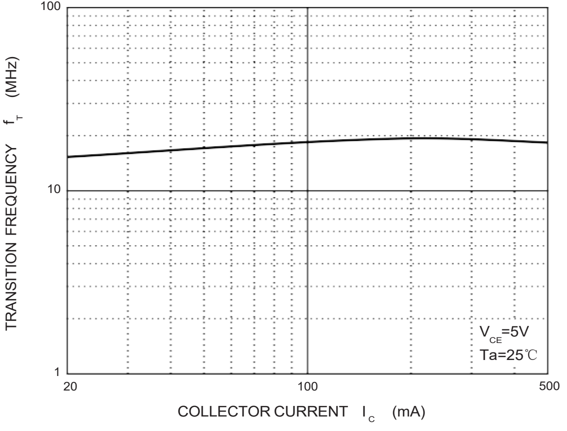
V_{BE} — I_C



C_{ob} / C_{ib} — V_{CB} / V_{EB}



f_T — I_C



P_C — T_a