TRANSISOR (NPN)

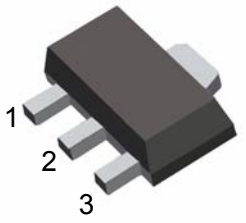
FEATURES

- High collector to base voltage V_{CBO}
- High collector to emitter voltage V_{CEO}
- Large collector power dissipation P_C
- Low collector to emitter saturation voltage $V_{CE(sat)}$

Marking:1S

SOT-89

1. BASE
2. COLLECTOR
3. EMITTER



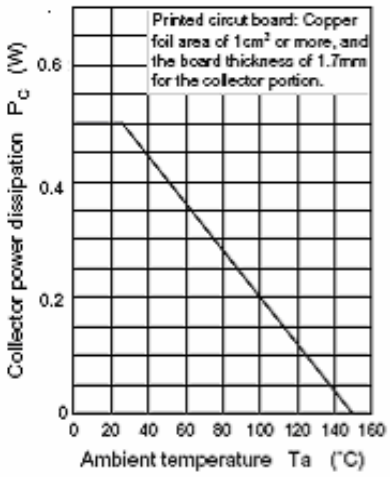
MAXIMUM RATINGS (T_A=25℃ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	400	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	100	mA
P_C	Collector Power Dissipation	500	mW
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55-150	℃

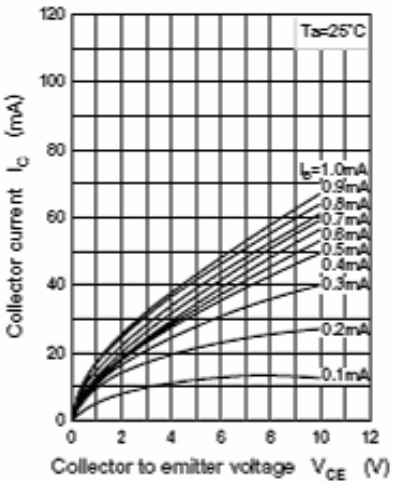
ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100μA, I_E=0	400			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=0.5mA, I_B=0	400			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100μA, I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=400V, I_E=0			50	μA
Emitter cut-off current	I_{EBO}	V_{EB}=5V, I_C=0			50	μA
DC current gain	h_{FE}	V_{CE}=5V, I_C=30mA	30			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=50mA, I_B=5mA			1.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=50mA, I_B=5mA			1.5	V
Transition frequency	f_T	V_{CE}=30V, I_C=20mA, f=200MHz		40		MHz
Collector output capacitance	C_{ob}	V_{CB} = 30V, I_E=0, f=1MHz			7	pF

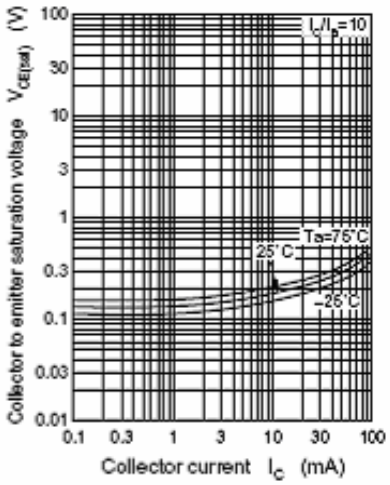
P_C — Ta



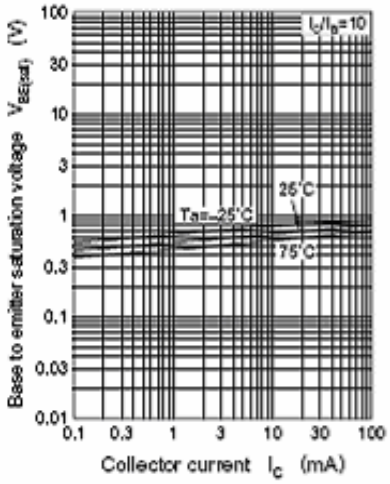
I_C — V_{CE}



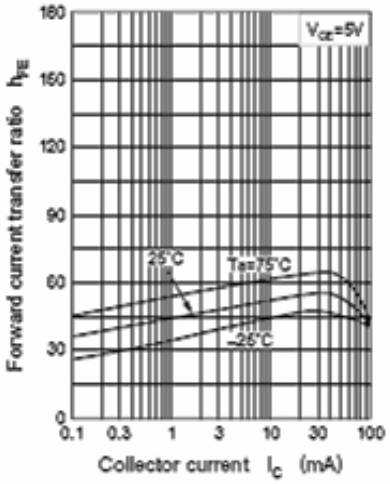
$V_{CE(sat)}$ — I_C



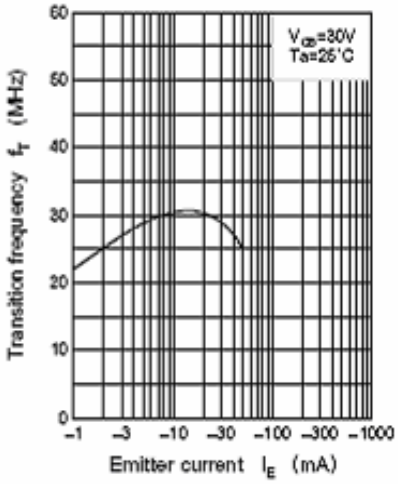
$V_{BE(sat)}$ — I_C



h_{FE} — I_C



f_T — I_E



C_{ob} — V_{CB}