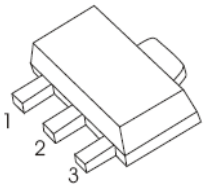
SOT-89-3L Plastic-Encapsulate Transistors

SOT-89-3L

1. BASE

2. COLLECTOR

3. EMITTER



A42 TRANSISTOR (NPN)

FEATURES

- Low Collector-Emitter Saturation Voltage
- High Breakdown Voltage

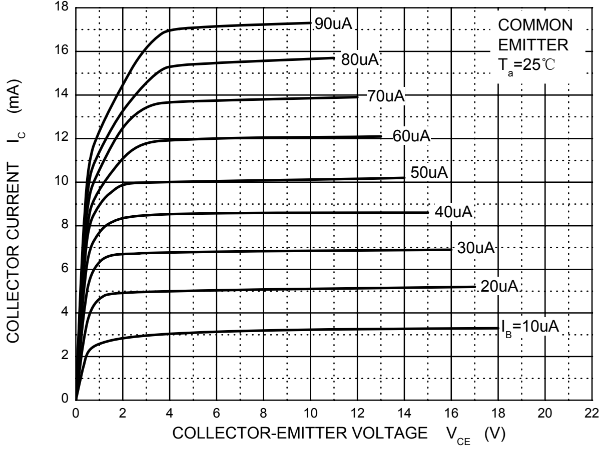
MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	310	V
V_{CEO}	Collector-Emitter Voltage	305	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	200	mA
I_{CM}	Collector Current -Pulsed	500	mA
P_C	Collector Power Dissipation	500	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	250	℃/W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55~+150	℃

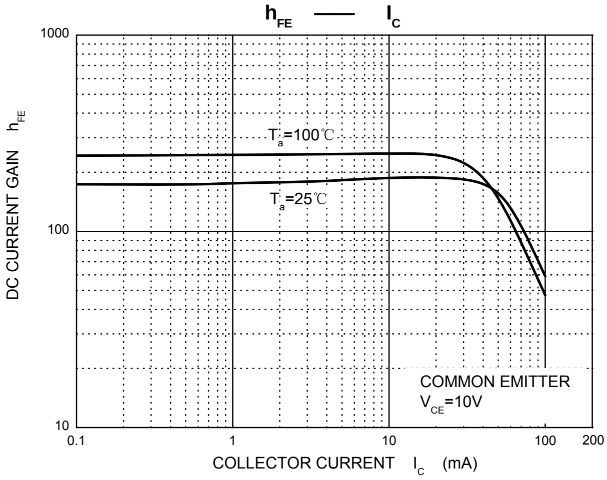
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100μA,I_E=0	310			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA,I_B=0	305			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100μA,I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=200V,I_E=0			0.25	μA
	I_{CEO}	V_{CE}=200V,I_B=0			0.25	μA
		V_{CE}=300V,I_B=0			5	μA
Emitter cut-off current	I_{EBO}	V_{EB}=5V,I_C=0			0.1	μA
DC current gain	$h_{FE(1)}$	V_{CE}=10V, I_C=1mA	60			
	$h_{FE(2)}$	V_{CE}=10V, I_C=10mA	100		300	
	$h_{FE(3)}$	V_{CE}=10V, I_C=30mA	75			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=20mA,I_B=2mA			0.2	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=20mA,I_B=2mA			0.9	V
Transition frequency	f_T	V_{CE}=20V,I_C=10mA, f=30MHz	50			MHz

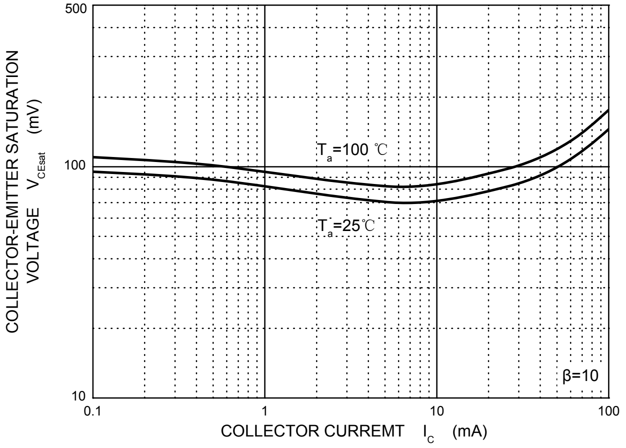
I_C —— V_{CE}



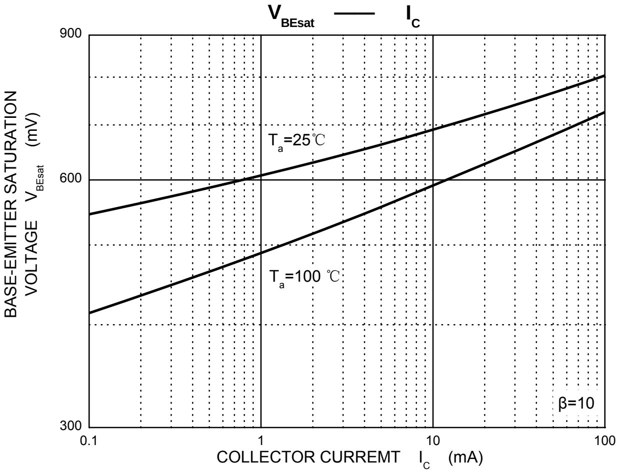
h_{FE} —— I_C



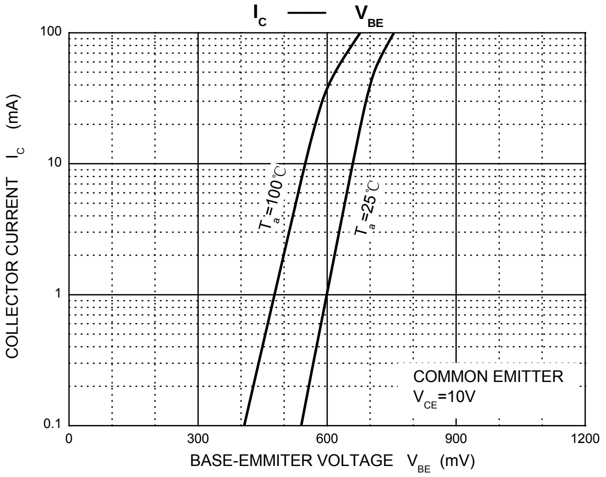
V_{CEsat} —— I_C



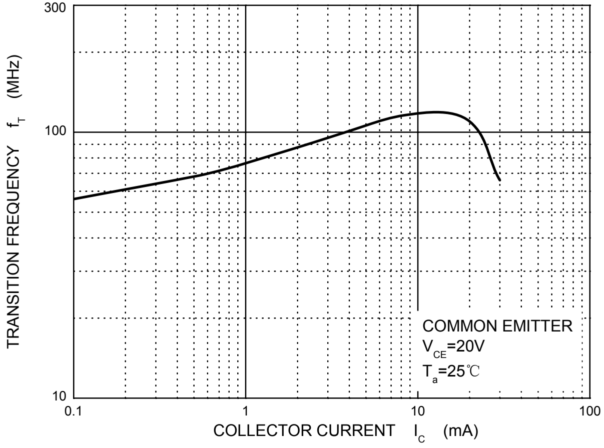
V_{BEsat} —— I_C



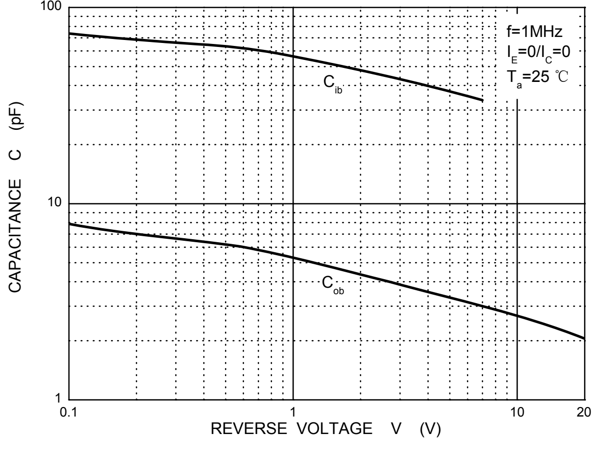
I_C —— V_{BE}



f_T —— I_C



C_{ob}/C_{ib} —— V_{CB}/V_{EB}



P_C —— T_a