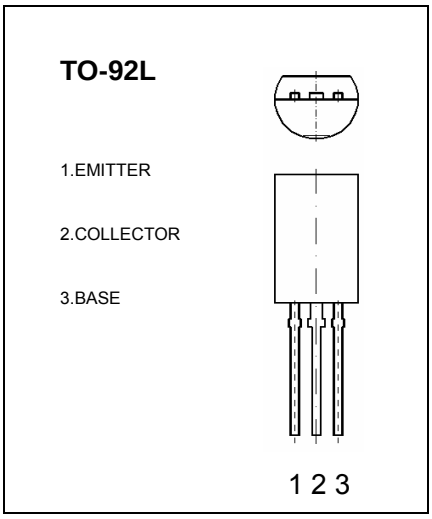
TIGER ELECTRONIC CO.,LTD

TO-92L Plastic-Encapsulate Transistors

2SC1383
2SC1384

TRANSISTOR (NPN)



FEATURES

- Low collector to emitter saturation voltage $V_{CE(sat)}$.
- Complementary pair with 2SA0683 and 2SA0684.

MAXIMUM RATINGS (T_A=25℃ unless otherwise noted)

Symbol	Parameter	2SC1383	2SC1384	Units
V_{CBO}	Collector-Base Voltage	30	60	V
V_{CEO}	Collector-Emitter Voltage	25	50	V
V_{EBO}	Emitter-Base Voltage	5		V
I_C	Collector Current –Continuous	1		A
P_C	Collector Power Dissipation	1		W
T_J	Junction Temperature	150		℃
T_{stg}	Storage Temperature	-55-150		℃

ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

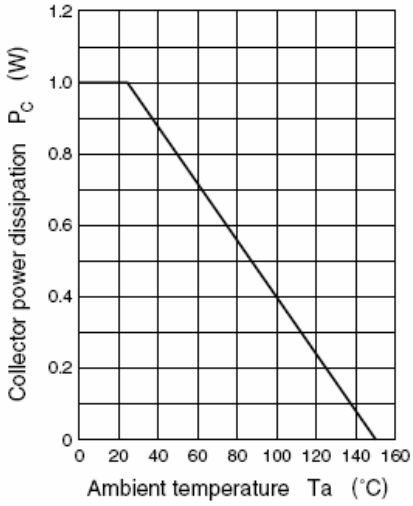
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage 2SC1383	$V_{(BR)CBO}$	I_C=10μA ,I_E=0	30			V
2SC1384			60			
Collector-emitter breakdown voltage 2SC1383	$V_{(BR)CEO}$	I_C=2mA , I_B=0	25			V
2SC1384			50			
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E= 10μA, I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=20V, I_E=0			0.1	μA
DC current gain	$h_{FE(1)}$	V_{CE}=10V, I_C=500mA	85		340	
	$h_{FE(2)}$	V_{CE}=5V, I_C=1A	50			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=500m A,I_B=50mA			0.4	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=500mA,I_B=50mA			1.2	V
Transition frequency	f_T	V_{CE}=10V,I_C=50mA		200		MHz

CLASSIFICATION OF $h_{FE(1)}$

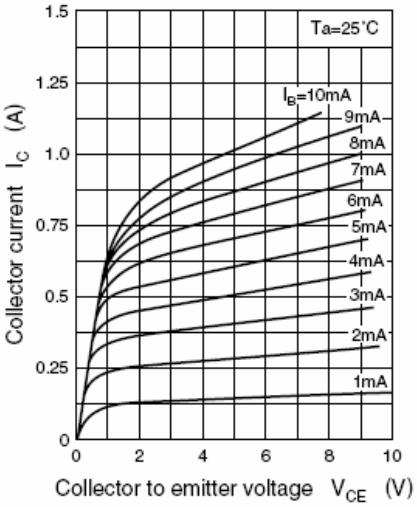
Rank	Q	R	S
Range	85-170	120-240	170-340

Typical Characteristics

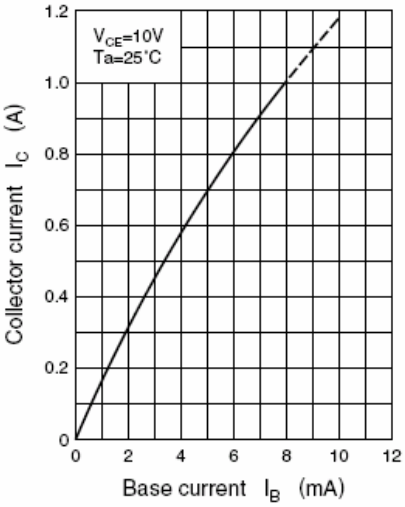
P_C — Ta



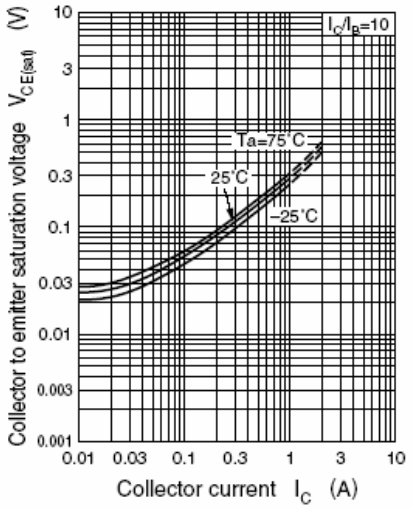
I_C — V_{CE}



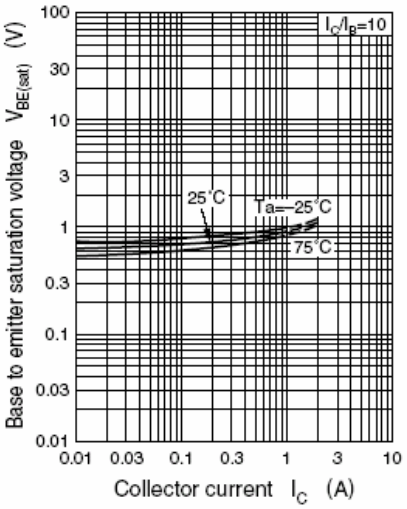
I_C — I_B



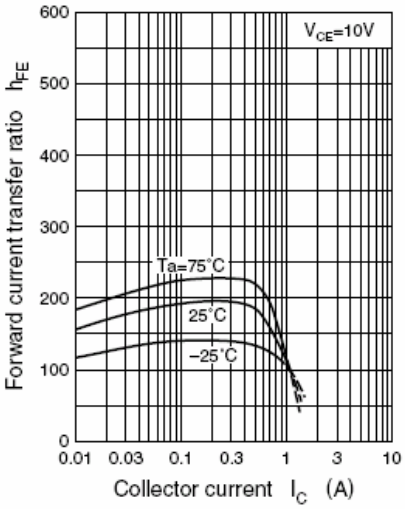
$V_{CE(sat)}$ — I_C



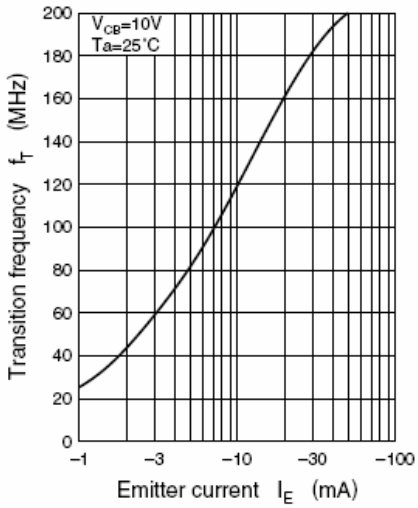
$V_{BE(sat)}$ — I_C



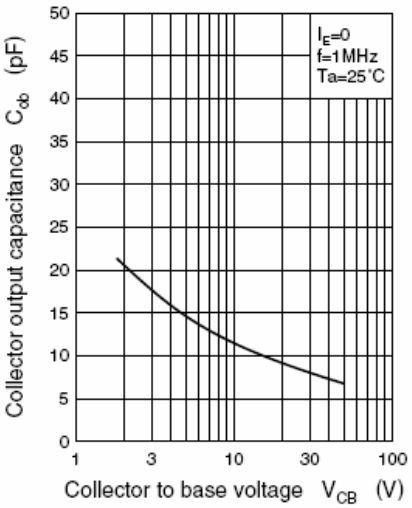
h_{FE} — I_C



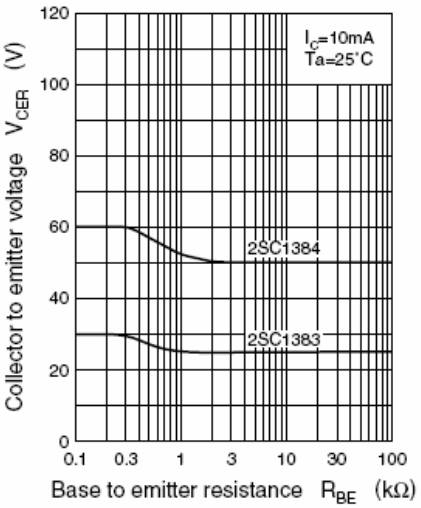
f_T — I_E



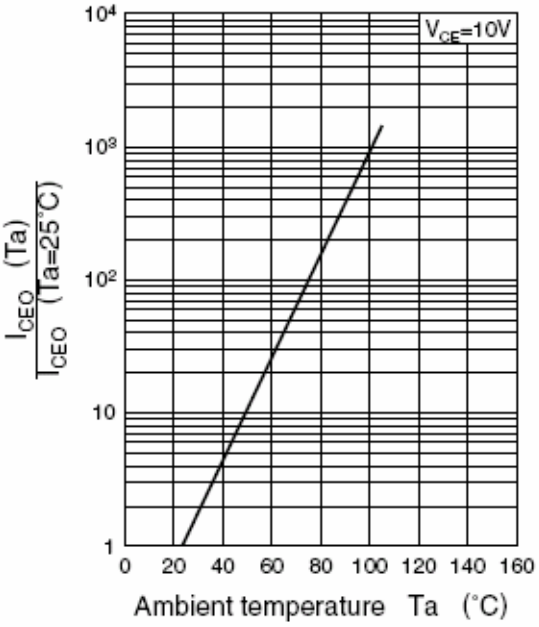
C_{ob} — V_{CB}



V_{CER} — R_{BE}



I_{CEO} — Ta



Area of safe operation (ASO)