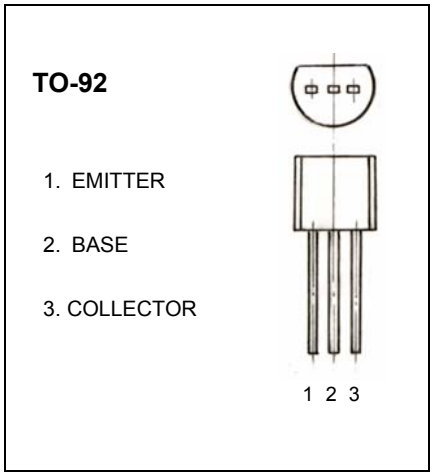
TIGER ELECTRONIC CO.,LTD

TO-92 Plastic-Encapsulate Transistors

A42 TRANSISTOR (NPN)



FEATURES

High voltage

MAXIMUM RATINGS (T_A=25℃ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	300	V
V_{CEO}	Collector-Emitter Voltage	300	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	500	mA
P_C	Collector Power Dissipation	625	mW
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55-150	℃
$R_{\Theta JA}$	Thermal Resistance, junction to Ambient	200	℃/mW
$R_{\Theta JC}$	Thermal Resistance, unction to Case	83.3	℃/mW

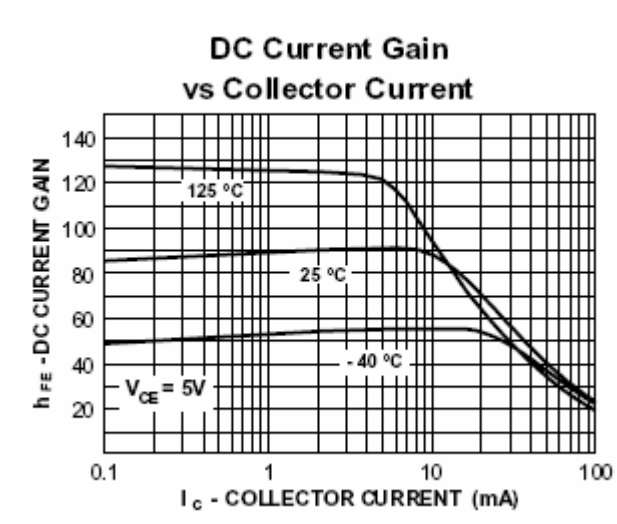
ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

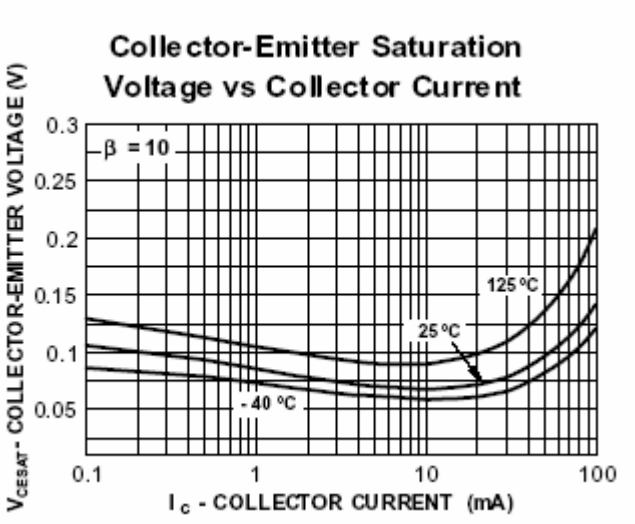
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100uA, I_E=0	300			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA, I_B=0	300			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100μA, I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=200V, I_E=0			0.25	μA
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	80		250	
	$h_{FE(3)}$	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=30MH$_Z$	50			MHz

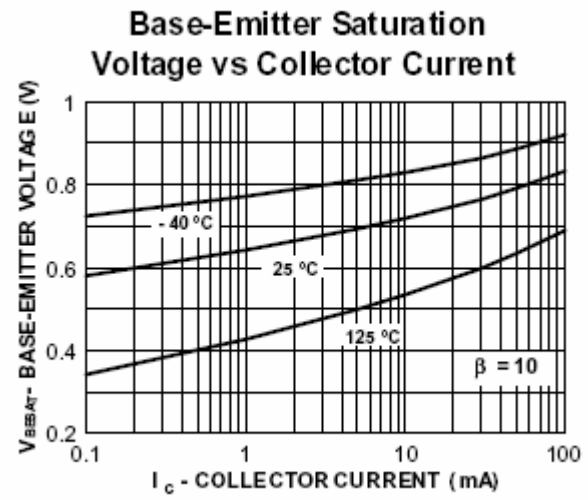
CLASSIFICATION OF $h_{FE(2)}$

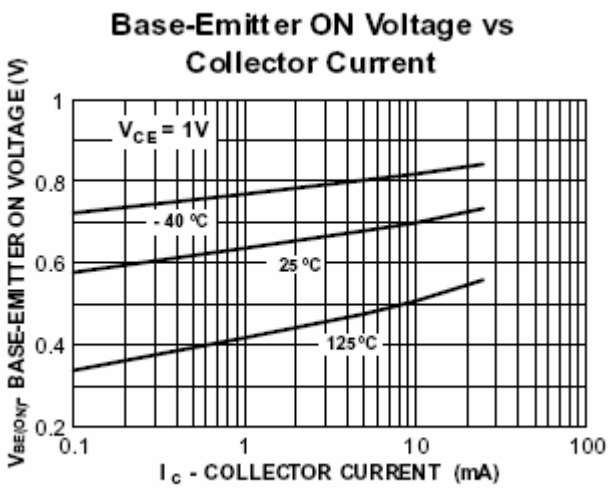
Rank	A	B_1	B_2	C
Range	80-100	100-150	150-200	200-250

Typical Characteristics A42

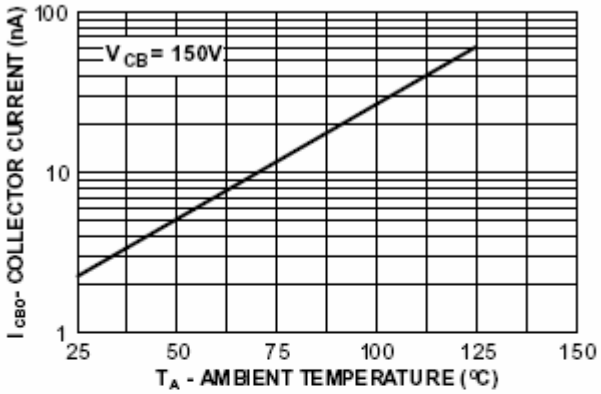




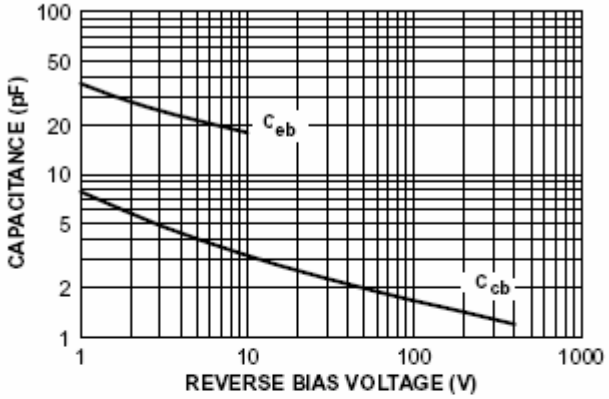




Collector-Cutoff Current vs Ambient Temperature



Collector-Base and Emitter-Base Capacitance vs Reverse Bias Voltage



Power Dissipation vs Ambient Temperature