

Shantou Huashan Electronic Devices Co., Ltd.

PNP DARLINGTON TRANSISTOR

HP147TS

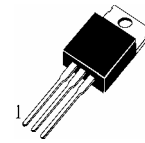
APPLICATIONS

High DC Current Gain

ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$)

T_{stg}	Storage Temperature	$-55\sim 150^{\circ}\text{C}$
T_j	Junction Temperature	150°C
P_C	Collector Dissipation ($T_c=25^{\circ}\text{C}$)	70W
V_{CBO}	Collector-Base Voltage	-100V
V_{CEO}	Collector-Emitter Voltage	-100V
V_{EBO}	Emitter-Base Voltage	-5V
I_C	Collector Current (DC)	-8A
I_B	Base Current	-0.5A

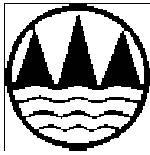
TO-220



1 — Base, B
2 — Collector, C
3 — Emitter, E

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$)

Symbol	Characteristics	Min	Typ	Max	Unit	Test Conditions
$BV_{\text{CEO(SUS)}}$	Collector-Emitter Sustaining Voltage	-100			V	$I_C=-30\text{mA}$, $I_B=0$
I_{CEO}	Collector Cutoff Current			-2	mA	$V_{\text{CE}}=-50\text{V}$, $I_B=0$
I_{CBO}	Collector Cutoff Current			-1	mA	$V_{\text{CB}}=-100\text{V}$, $I_E=0$
I_{EBO}	Emitter-Base Cutoff Current			-2	mA	$V_{\text{EB}}=-5\text{V}$, $I_C=0$
$H_{\text{FE}} (1)$	DC Current Gain	1000				$V_{\text{CE}}=-4\text{V}$, $I_C=-0.5\text{A}$
$H_{\text{FE}} (2)$		1000				$V_{\text{CE}}=-4\text{V}$, $I_C=-3\text{A}$
$V_{\text{CE(sat1)}}$	Collector- Emitter Saturation Voltage			-2	V	$I_C=-5\text{A}$, $I_B=-10\text{mA}$
$V_{\text{CE(sat2)}}$				-3	V	$I_C=-10\text{A}$, $I_B=-40\text{mA}$
$V_{\text{BE(sat)}}$	Base- Emitter Saturation Voltage			-3.5	V	$I_C=-10\text{A}$, $I_B=-40\text{mA}$
$V_{\text{BE(on)}}$	Base- Emitter On Voltage			-3	V	$V_{\text{CE}}=-4\text{V}$, $I_C=-10\text{A}$,
t_D	Deiay time		0.15		uS	$V_{\text{CC}}=-30\text{V}$, $I_C=-5\text{A}$ $I_{B1}=-20\text{mA}$ $I_{B2}=20\text{mA}$
t_R	Rise Time		0.55		uS	
t_S	Storage Time		2.5		uS	
t_F	Fall Time		2.5		uS	



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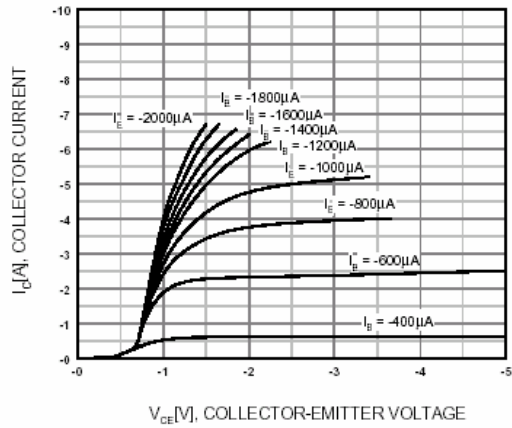


Figure 1. Static Characteristic

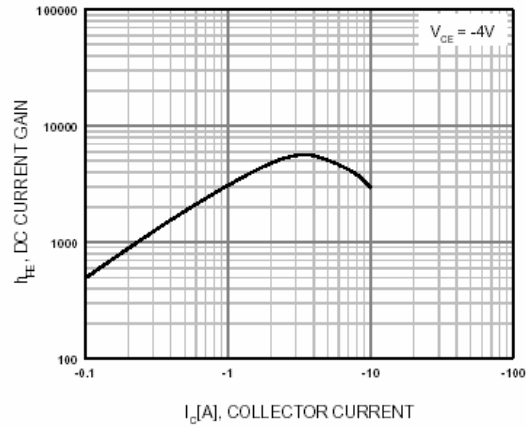


Figure 2. DC current Gain

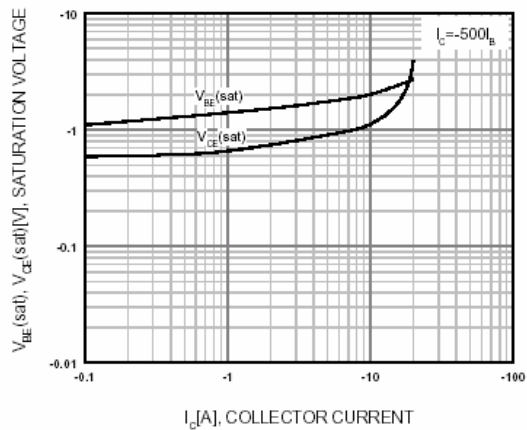


Figure 3. Collector-Emitter Saturation Voltage
Base-Emitter Saturation Voltage

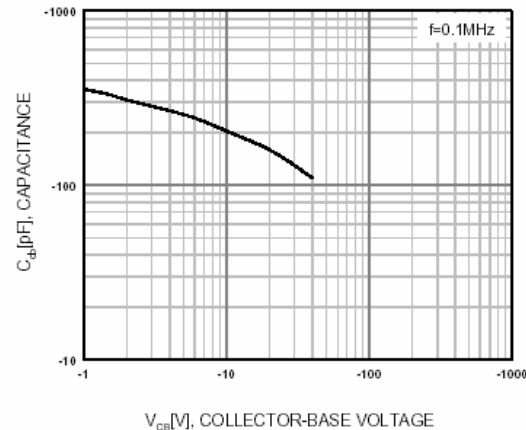


Figure 4. Collector Output Capacitance

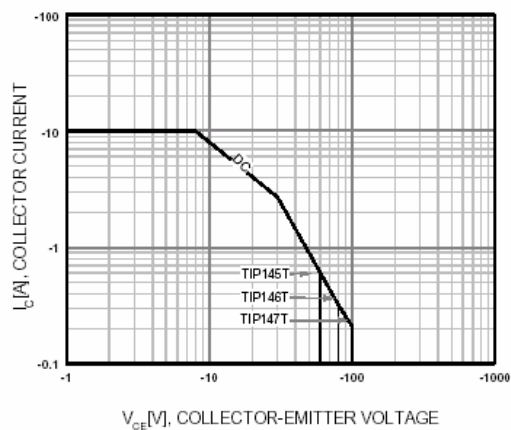


Figure 5. Safe Operating Area

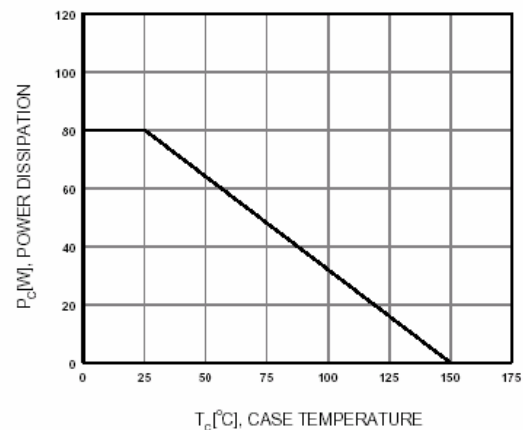


Figure 6. Power Derating