Shantou Huashan Electronic Devices Co.,Ltd.

NPN DARLINGTON TRANSISTOR

HP142TSW

APPLICATIONS

High DC Current Gain

ABSOLUTE MAXIMUM RATINGS (T_a=25℃)

T_{stg}——Storage Temperature····· -55~150℃

T_j——Junction Temperature····· 150℃

P_C——Collector Dissipation (T_c=25℃) ····· 70W

V_{CBO}——Collector-Base Voltage····· 100V

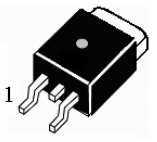
V_{CEO}——Collector-Emitter Voltage····· 100V

V_{EBO}——Emitter-Base Voltage····· 5V

I_C——Collector Current (DC) ····· 8A

I_B——Base Current·····0.5A

TO-263



1—Base，B
2—Collector，C
3—Emitter, E

ELECTRICAL CHARACTERISTICS (T_a=25℃)

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

HP142TSW

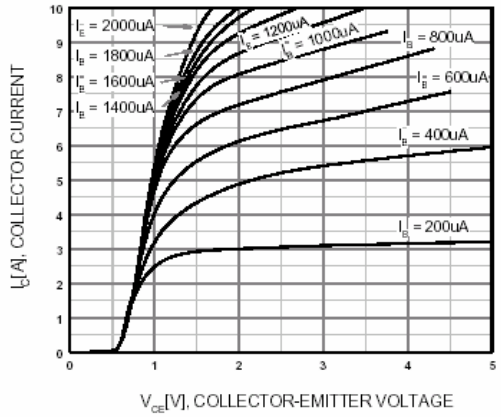


Figure 1. Static Characteristic

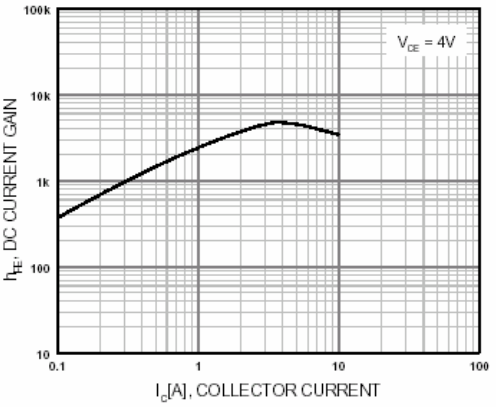


Figure 2. DC current Gain

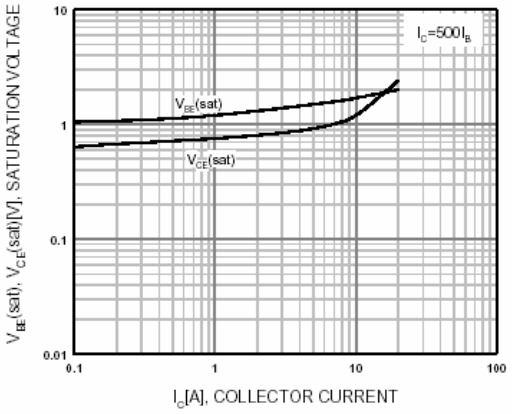


Figure 3. Collector-Emitter Saturation Voltage Base-Emitter Saturation Voltage

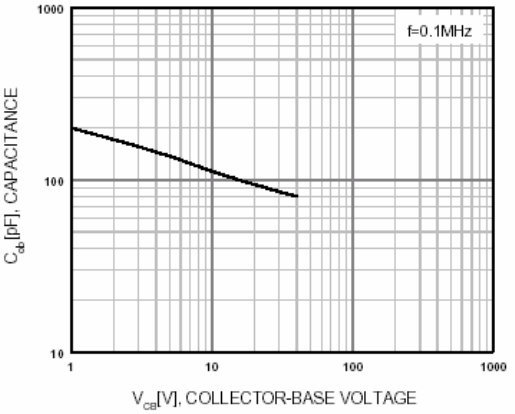


Figure 4. Collector Output Capacitance

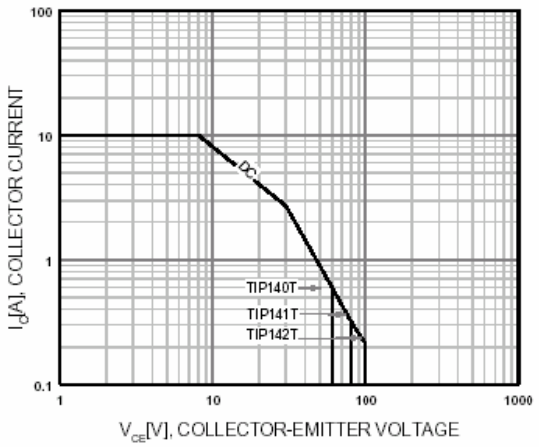


Figure 5. Safe Operating Area

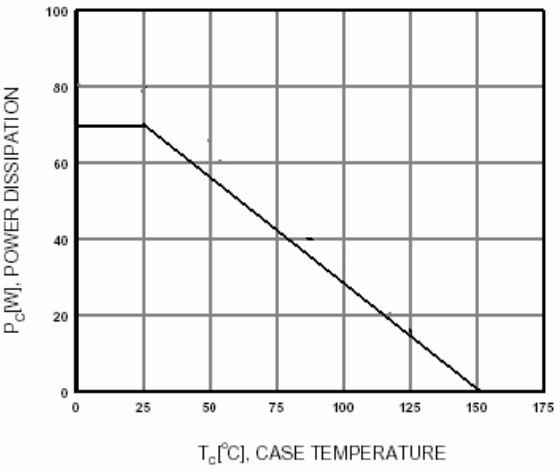


Figure 6. Power Derating