

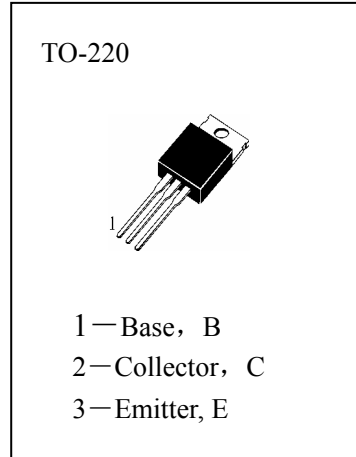
HP142TS

APPLICATIONS

High DC Current Gain

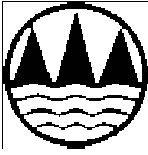
ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

T _{stg} —Storage Temperature	–55~150°C
T _j —Junction Temperature	150°C
P _C —Collector Dissipation (T _c =25°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



ELECTRICAL CHARACTERISTICS (T_a=25°C)

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	V _{CC} =30V, I _C =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	



HP142TS

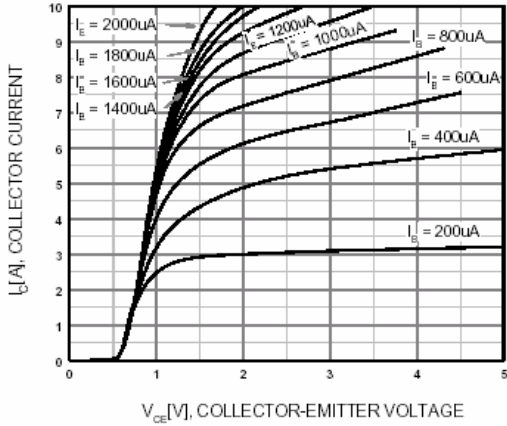


Figure 1. Static Characteristic

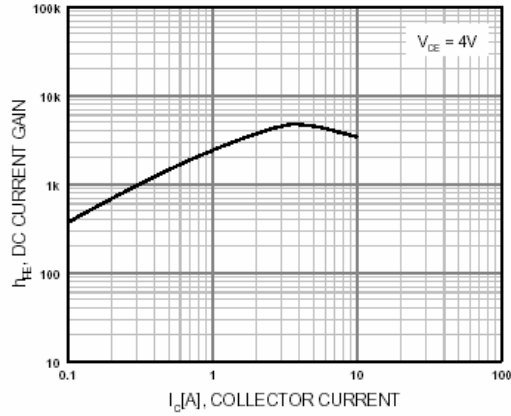


Figure 2. DC current Gain

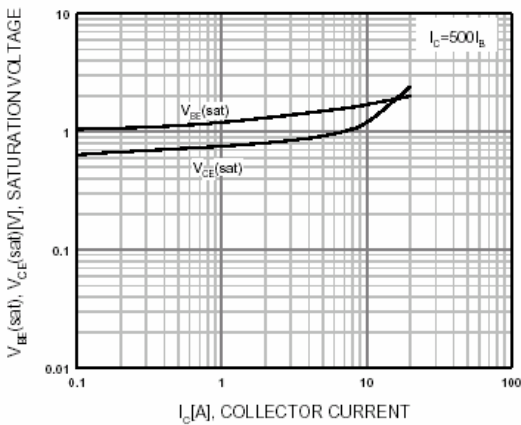


Figure 3. Collector-Emitter Saturation Voltage
Base-Emitter Saturation Voltage

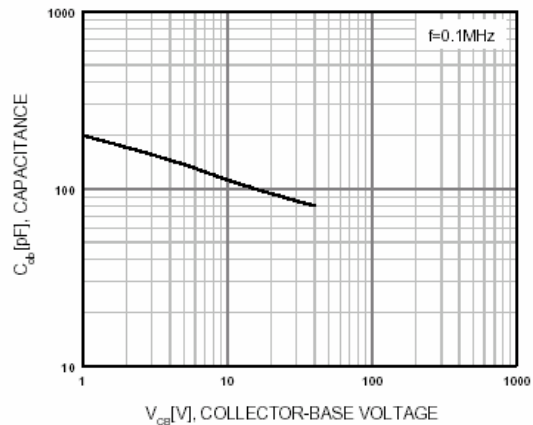


Figure 4. Collector Output Capacitance

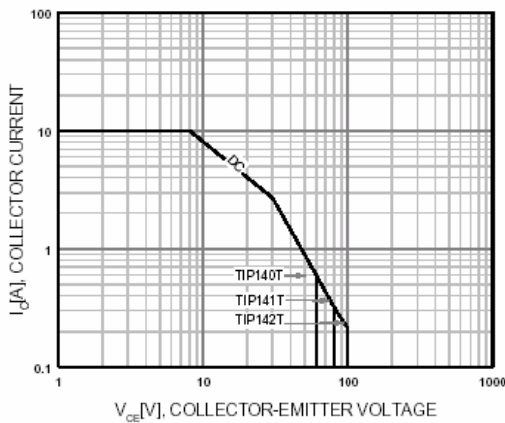


Figure 5. Safe Operating Area

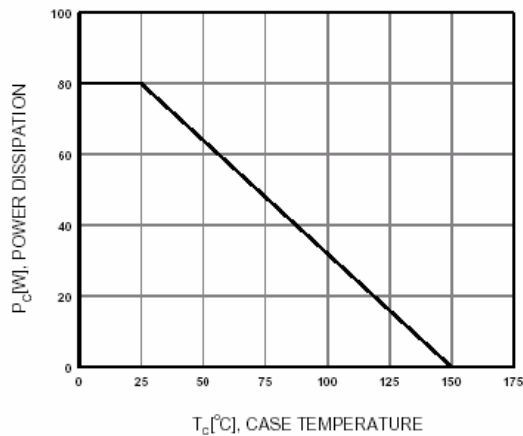


Figure 6. Power Derating