



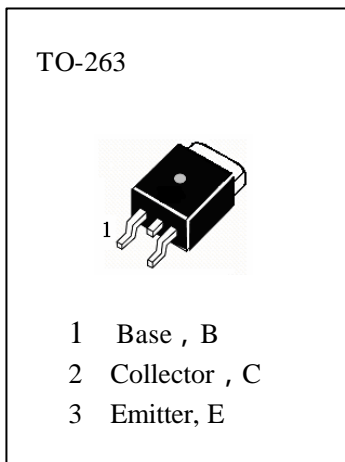
HP142TSW

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



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)	DC Current Gain	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)}	Collector- Emitter Saturation Voltage			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	



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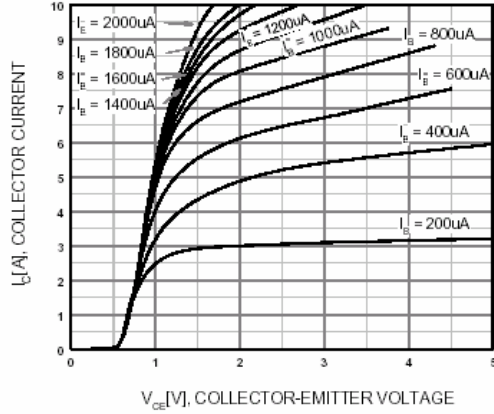


Figure 1. Static Characteristic

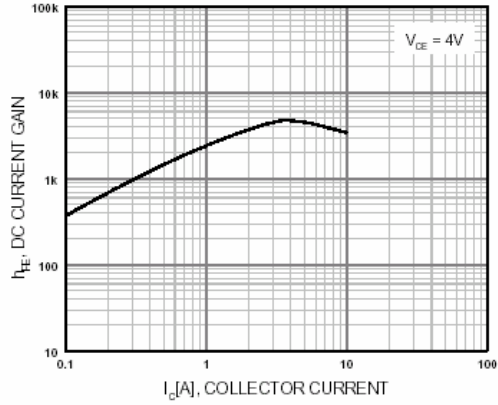


Figure 2. DC current Gain

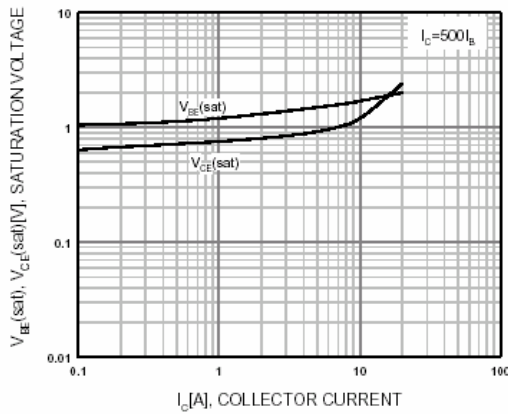


Figure 3. Collector-Emitter Saturation Voltage
Base-Emitter Saturation Voltage

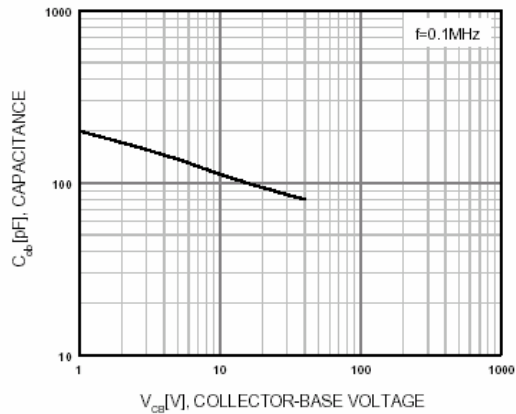


Figure 4. Collector Output Capacitance

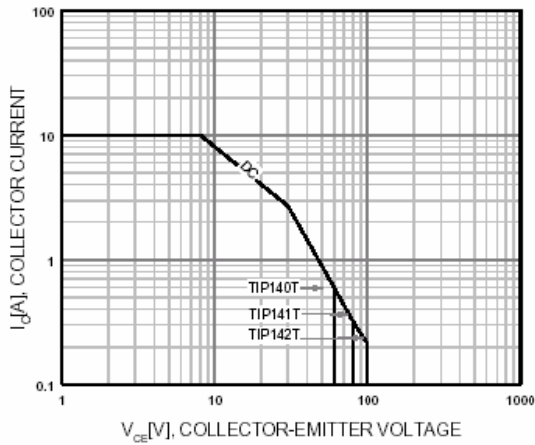


Figure 5. Safe Operating Area

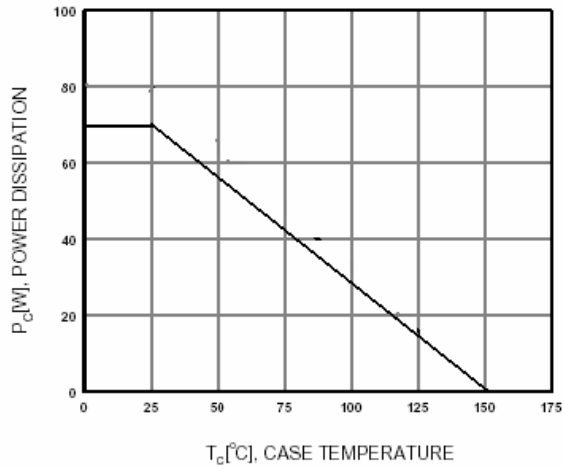


Figure 6. Power Derating

