



# HP147TSW

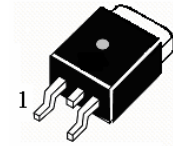
## APPLICATIONS

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 <sub>CEO(SUS)</sub>	Collector-Emitter Sustaining Voltage	-100			V	$I_C=-30mA, I_B=0$
I <sub>CEO</sub>	Collector Cutoff Current			-2	mA	$V_{CE}=-50V, I_B=0$
I <sub>CBO</sub>	Collector Cutoff Current			-1	mA	$V_{CB}=-100V, I_E=0$
I <sub>EBO</sub>	Emitter-Base Cutoff Current			-2	mA	$V_{EB}=-5V, I_C=0$
H <sub>FE</sub> ( 1 )	DC Current Gain	1000				$V_{CE}=-4V, I_C=-0.5A$
H <sub>FE</sub> ( 2 )		1000				$V_{CE}=-4V, I_C=-3A$
V <sub>CE(sat1)</sub>	Collector- Emitter Saturation Voltage			-2	V	$I_C=-5A, I_B=-10mA$
V <sub>CE(sat2)</sub>				-3	V	$I_C=-10A, I_B=-40mA$
V <sub>BE(sat)</sub>	Base- Emitter Saturation Voltage			-3.5	V	$I_C=-10A, I_B=-40mA$
V <sub>BE(on)</sub>	Base- Emitter On Voltage			-3	V	$V_{CE}=-4V, I_C=-10A,$
t <sub>D</sub>	Deiay time		0.15		uS	$V_{CC}=-30V, I_C=-5A$ $I_{B1}=-20mA$ $I_{B2}=20mA$
t <sub>R</sub>	Rise Time		0.55		uS	
t <sub>S</sub>	Storage Time		2.5		uS	
t <sub>F</sub>	Fall Time		2.5		uS	



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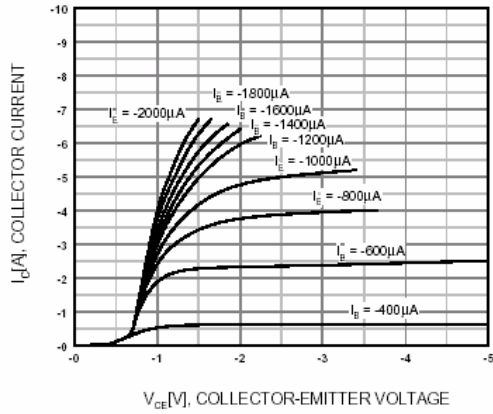


Figure 1. Static Characteristic

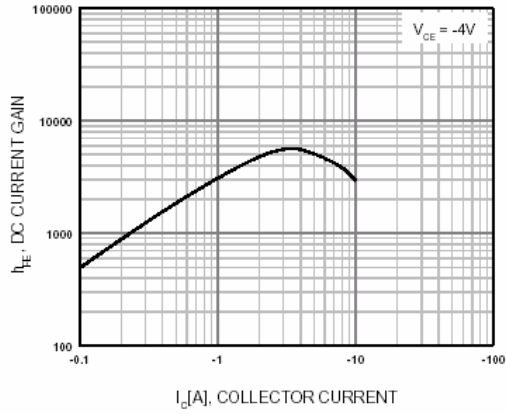


Figure 2. DC current Gain

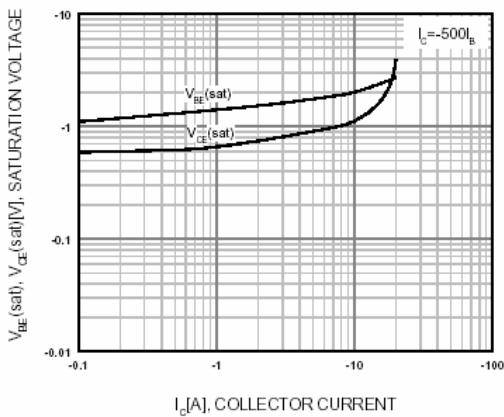


Figure 3. Collector-Emitter Saturation Voltage  
Base-Emitter Saturation Voltage

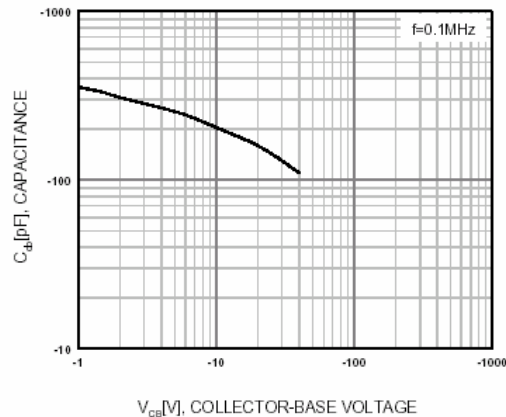


Figure 4. Collector Output Capacitance

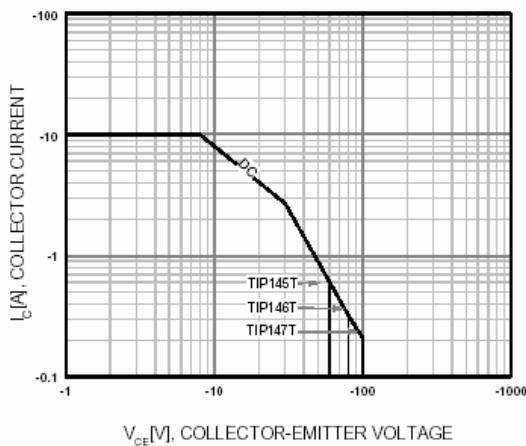


Figure 5. Safe Operating Area

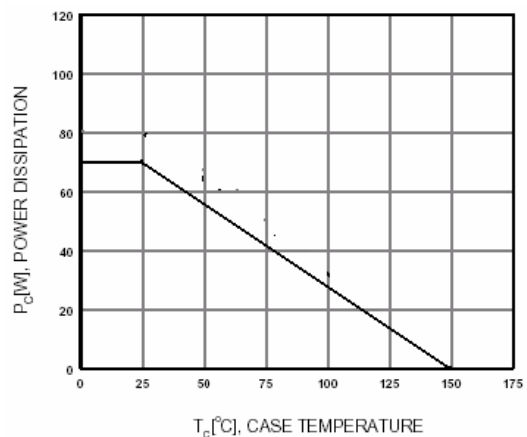


Figure 6. Power Derating