



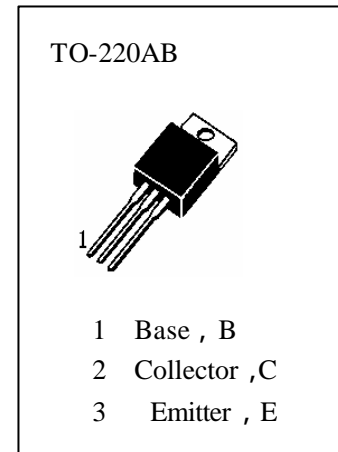
# HEP42C

## APPLICATIONS

Medium Power Linear Switching Application.

### ABSOLUTE MAXIMUM RATINGS ( $T_a=25$ )

$T_{stg}$ —Storage Temperature.....	-55~150
$T_j$ —Junction Temperature.....	150
$P_C$ —Collector Dissipation ( $T_c=25$ ) .....	65W
$P_C$ —Collector Dissipation( $T_A=25$ ) .....	2W
$V_{CBO}$ —Collector-Base Voltage.....	-100V
$V_{CEO}$ —Collector-Emitter Voltage.....	-100V
$V_{EBO}$ —Emitter-Base Voltage.....	-5V
$I_C$ —Collector Current.....	-6A
$I_B$ —Base Current.....	-2A



### ELECTRICAL CHARACTERISTICS ( $T_a=25$ )

Symbol	Characteristics	Min	Typ	Max	Unit	Test Conditions
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	-100			V	$I_C=-30mA, I_B=0$
$I_{CEO}$	Collector Cut-off Current			-0.7	mA	$V_{CE}=-60V, I_B=0$
$I_{EBO}$	Emitter Cut-off Current			-1	mA	$V_{EB}=-5V, I_C=0$
$I_{CES}$	Collector Cut-off Current			-400	$\mu A$	$V_{CE}=-100V, V_{EB}=0$
$H_{FE} ( 1 )$	DC Current Gain	30				$V_{CE}=-4V, I_C=-0.3A$
$H_{FE} ( 2 )$	DC Current Gain	15	100			$V_{CE}=-4V, I_C=-3A$
$V_{CE(sat)}$	Collector- Emitter Saturation Voltage			-1.5	V	$I_C=-6A, I_B=-600mA$
$V_{BE(on)}$	Base-Emitter On Voltage			-2.0	V	$V_{CE}=-4V, I_C=-6A$
$f_T$	Current Gain-Bandwidth Product	3.0			MHz	$V_{CE}=-10V, I_C=-500mA,$ $f=1MHz$

### $h_{FE} ( 2 )$ Classification

15—75

70—100

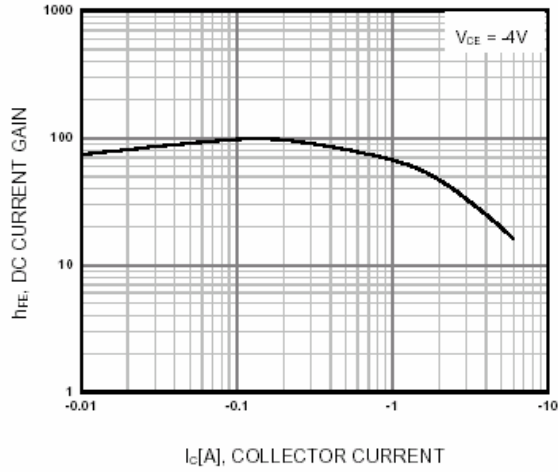


Figure 1. DC current Gain

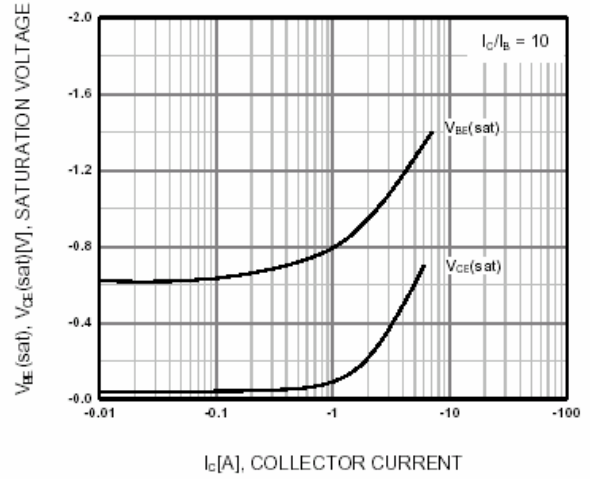


Figure 2. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

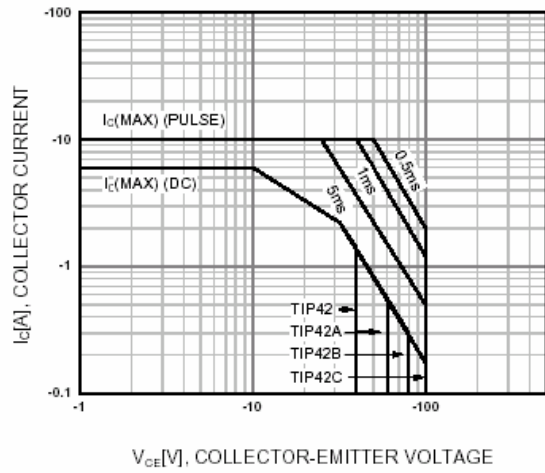


Figure 3. Safe Operating Area

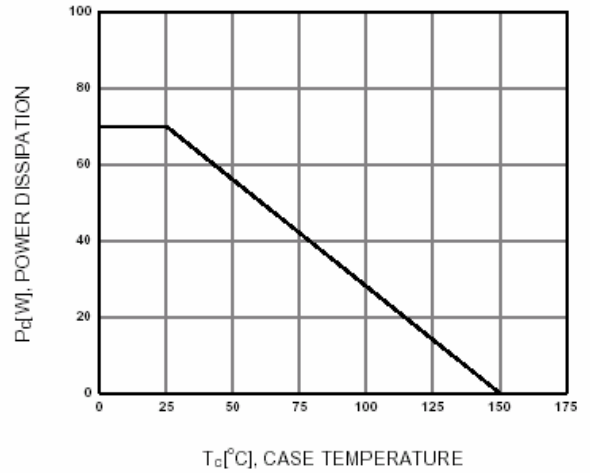


Figure 4. Power derating