

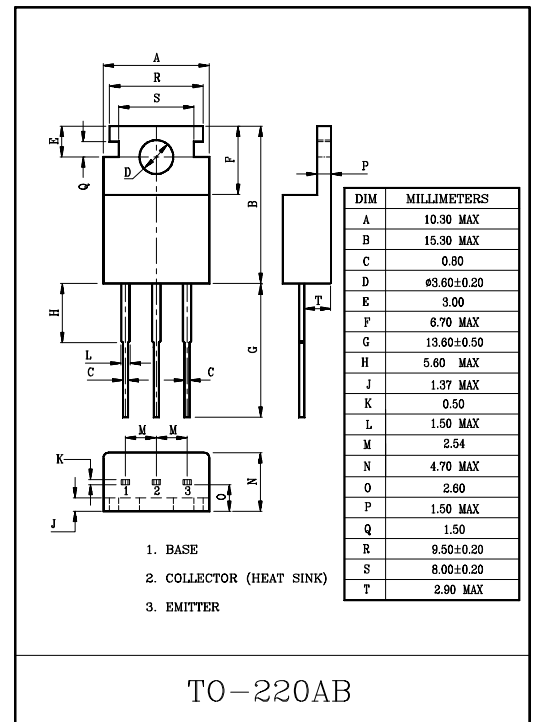
SWITCHING REGULATOR APPLICATION.  
HIGH VOLTAGE SWITCHING APPLICATION.

### FEATURES

- Excellent Switching Times.  
:  $t_{on}=0.5\mu S(\text{Max.})$ ,  $t_f=0.3\mu S(\text{Max.})$ , at  $I_C=4A$ .
- High Collector Voltage :  $V_{CEO}=500V$ .

### MAXIMUM RATINGS ( $T_a=25^\circ C$ )

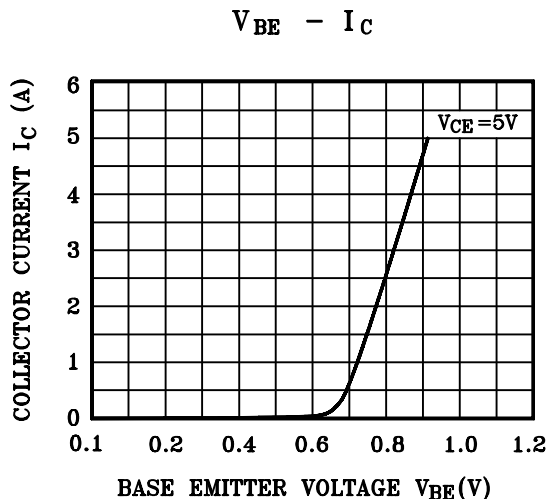
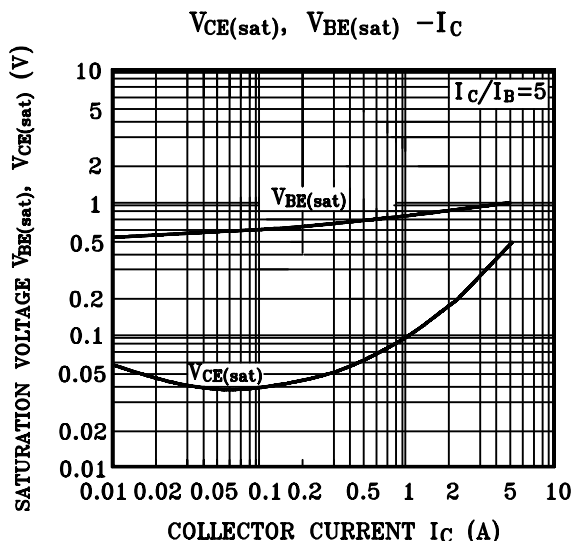
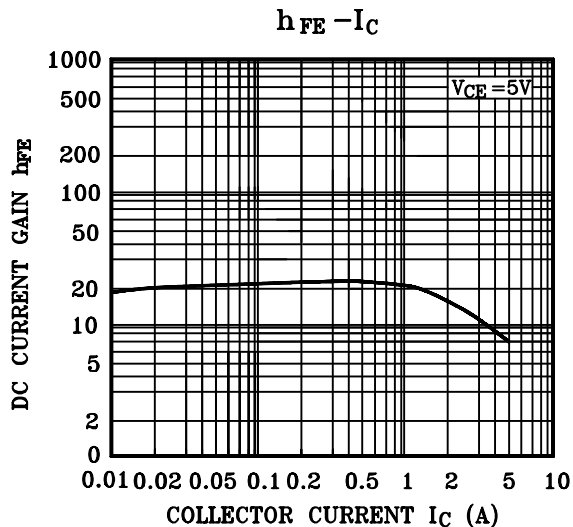
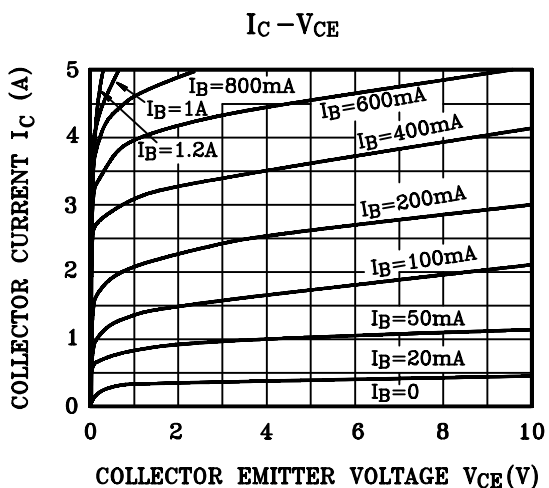
CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		$V_{CBO}$	800	V
Collector-Emitter Voltage		$V_{CEO}$	500	V
Emitter-Base Voltage		$V_{EBO}$	7	V
Collector Current	DC	$I_C$	5	A
	Pulse	$I_C$	10	
Base Current		$I_B$	2	A
Collector Power Dissipation ( $T_c=25^\circ C$ )		$P_C$	50	W
Junction Temperature		$T_j$	150	$^\circ C$
Storage Temperature Range		$T_{stg}$	-55~150	$^\circ C$



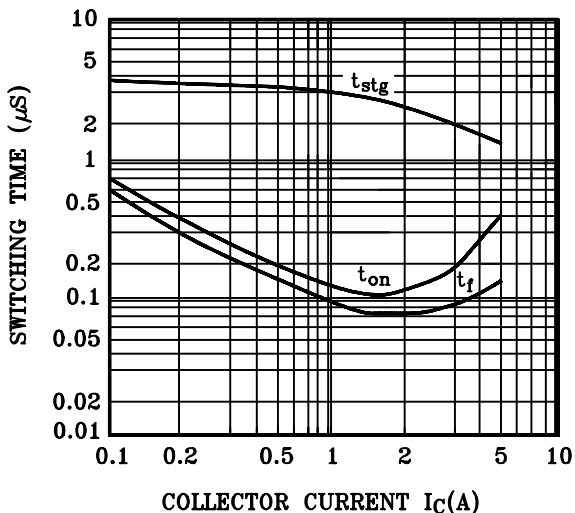
### ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ C$ )

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		$I_{CBO}$	$V_{CB}=500V$ , $I_E=0$	-	-	10	$\mu A$
Emitter Cut-off Current		$I_{EBO}$	$V_{EB}=5V$ , $I_C=0$	-	-	10	$\mu A$
Collector-Emitter Sustaining Voltage		$V_{CEX(SUS)}$	$I_C=2.5A$ , $I_{B1}=-I_{B2}=1A$ $L=1mH$ , Clamped	500	-	-	V
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C=3A$ , $I_B=0.6A$	-	-	1	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C=3A$ , $I_B=0.6A$	-	-	1.5	V
DC Current Gain	$h_{FE}(1)$ (Note)		$V_{CE}=5V$ , $I_C=0.6A$	15	-	50	
	$h_{FE}(2)$		$V_{CE}=5V$ , $I_C=3A$	8	-	-	
Collector Output Capacitance		$C_{ob}$	$V_{CB}=10V$ , $f=1MHz$ , $I_E=0$	-	80	-	pF
Transition Frequency		$f_T$	$V_{CE}=10V$ , $I_C=0.6A$	-	18	-	MHz
Switching Time	Turn On Time	$t_{on}$	<p><math>I_{B1}=0.8A</math>, <math>I_{B2}=-1.6A</math> DUTY CYCLE <math>\leq 1\%</math></p>	-	-	0.5	$\mu S$
	Storage Time	$t_{stg}$		-	-	3	
	Fall Time	$t_f$		-	-	0.3	

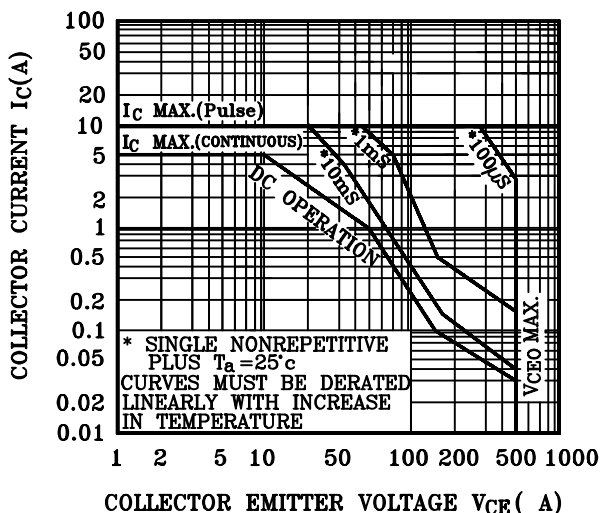
Note :  $h_{FE}(1)$  Classification R:15~30, O:20~40, Y:30~50



### SWITCHING CHARACTERISTICS

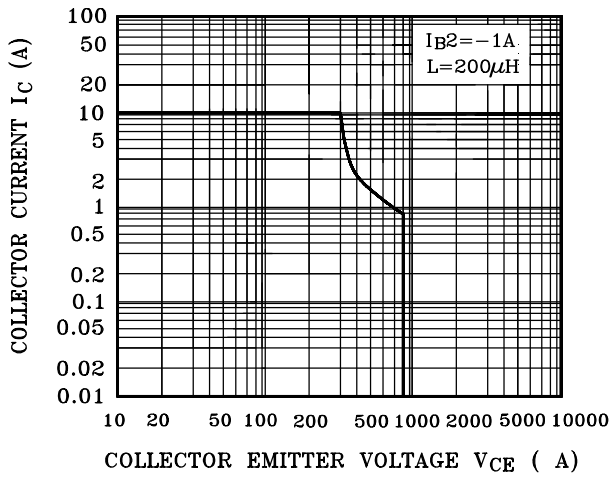


### SAFE OPERATING AREA



# KTC4521

REVERSE BIAS SAFE OPERATING AREA



$P_C - T_a$

