

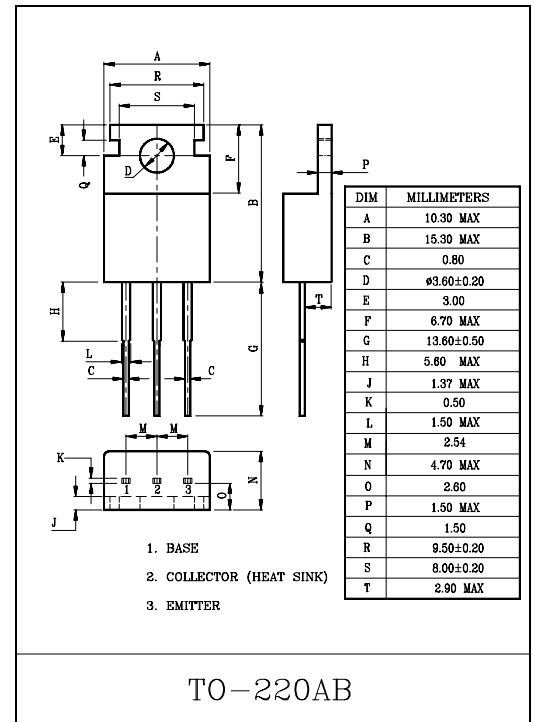
SWITCHING REGULATOR APPLICATION.
HIGH VOLTAGE SWITCHING APPLICATION.

FEATURES

- Excellent Switching Times.
: $t_{on}=0.5\mu S(\text{Max.})$, $t_f=0.3\mu S(\text{Max.})$, at $I_C=2A$.
- 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	3	A
	Pulse	I_{CP}	6	
Base Current		I_B	1	A
Collector Power Dissipation ($T_c=25^\circ C$)		P_C	40	W
Junction Temperature		T_j	150	$^\circ C$
Storage Temperature Range		T_{stg}	-55 ~ 150	$^\circ C$

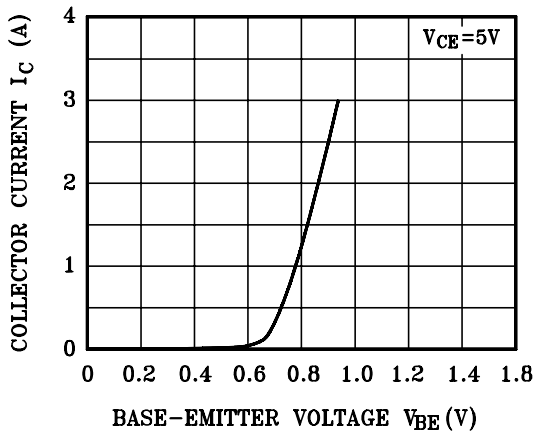


ELECTRICAL CHARACTERISTICS ($T_a=25^\circ C$)

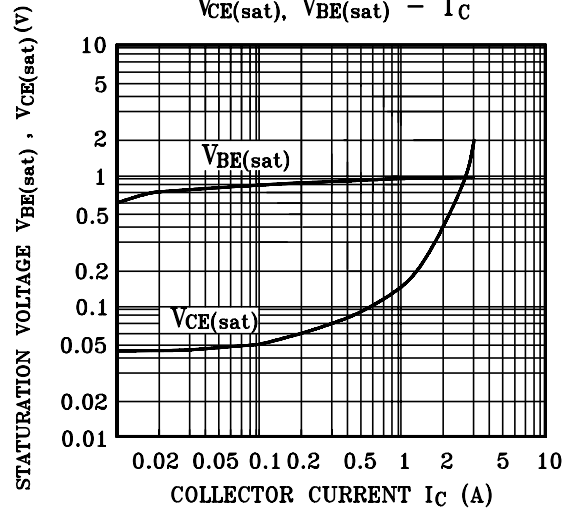
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB}=500V$, $I_E=0$	-	-	10	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB}=5V$, $I_C=0$	-	-	10	μA
Collector-Emitter Sustaining Voltage		$V_{CEX(SUS)}$	$I_C=1.5A$, $I_{B1}=-I_{B2}=0.6A$ $L=2mH$, Clamped	500	-	-	V
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C=1.5A$, $I_B=0.3A$	-	-	1	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C=1.5A$, $I_B=0.3A$	-	-	1.5	V
DC Current Gain	$h_{FE} (1)$ (Note)		$V_{CE}=5V$, $I_C=0.3A$	15	-	50	
	$h_{FE} (2)$		$V_{CE}=5V$, $I_C=1.5A$	8	-	-	
Collector Output Capacitance		C_{ob}	$V_{CB}=10V$, $f=1MHz$	-	50	-	pF
Transition Frequency		f_T	$V_{CE}=10V$, $I_C=0.3A$	-	18	-	MHz
Switching Time	Turn On Time	t_{on}	$I_{B1}=0.4A$, $I_{B2}=-0.8A$ DUTY CYCLE $\leq 1\%$	-	-	0.5	μS
	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

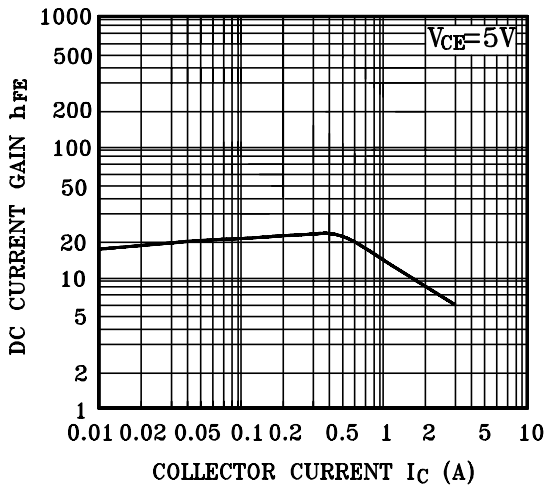
$I_C - V_{BE}$



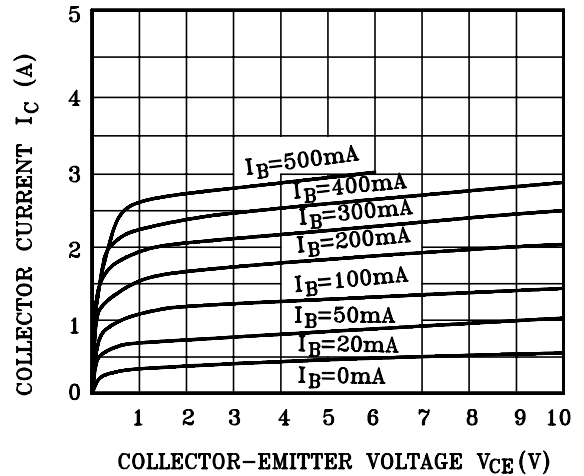
$V_{CE(sat)}, V_{BE(sat)} - I_C$



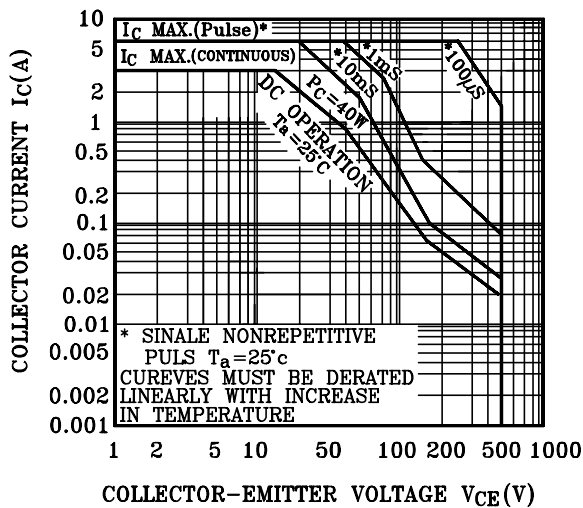
$h_{FE} - I_C$



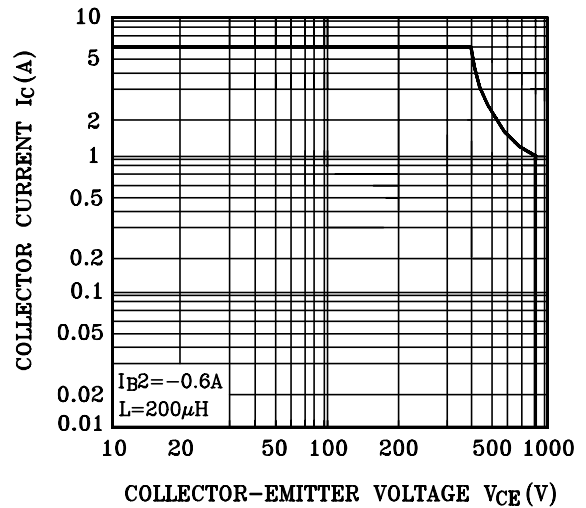
$I_C - V_{CE}$



SAFE OPERATING AREA



REVERSE BIAS SAFE OPERATING AREA



KTC4520

