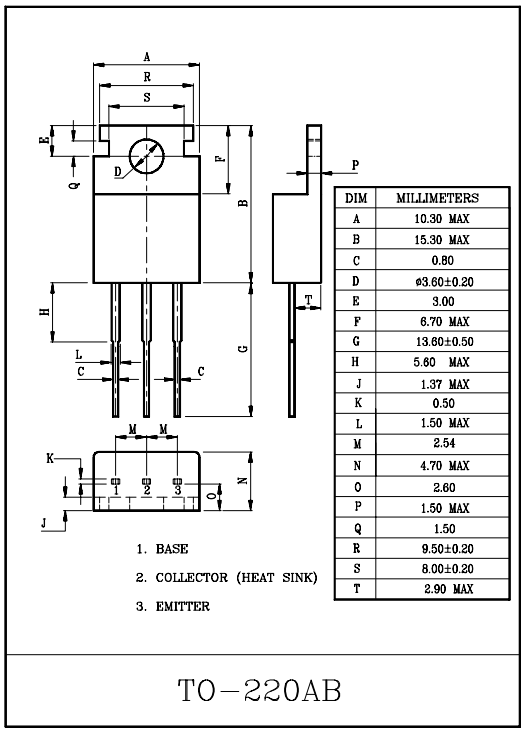
KTC4521

TRIPLE DIFFUSED NPN TRANSISTOR

SWITCHING REGULATOR APPLICATION.
HIGH VOLTAGE SWITCHING APPLICATION.

FEATURES

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



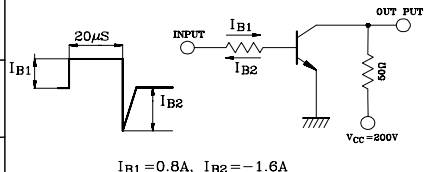
DIM	MILLIMETERS
A	10.30 MAX
B	15.30 MAX
C	0.80
D	ø3.60±0.20
E	3.00
F	6.70 MAX
G	13.60±0.50
H	5.60 MAX
J	1.37 MAX
K	0.50
L	1.50 MAX
M	2.54
N	4.70 MAX
O	2.60
P	1.50 MAX
Q	1.50
R	9.50±0.20
S	8.00±0.20
T	2.90 MAX

TO-220AB

MAXIMUM RATINGS (Ta=25℃)

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 (Tc=25℃)		P_C	50	W
Junction Temperature		T_j	150	℃
Storage Temperature Range		T_{stg}	-55~150	℃

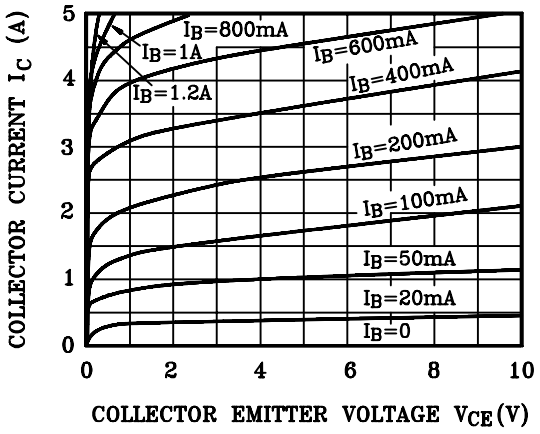
ELECTRICAL CHARACTERISTICS (Ta=25℃)

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 Sustaning 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}		-	-	0.5	μS
	Storage Time	t_{stg}		-	-	3	
	Fall Time	t_f		-	-	0.3	

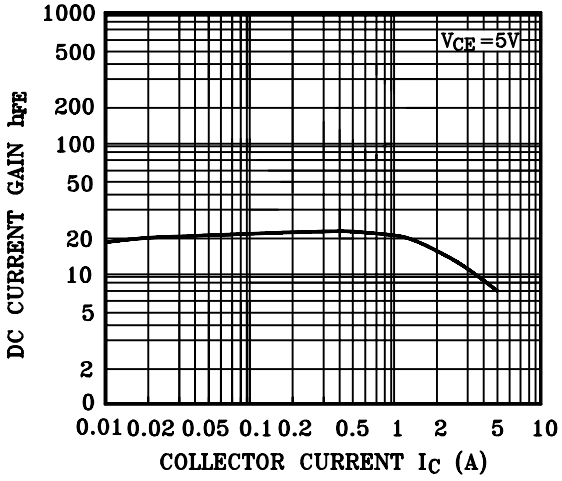
I_{B1}=0.8A, I_{B2}=-1.6A
DUTY CYCLE ≦ 1%

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

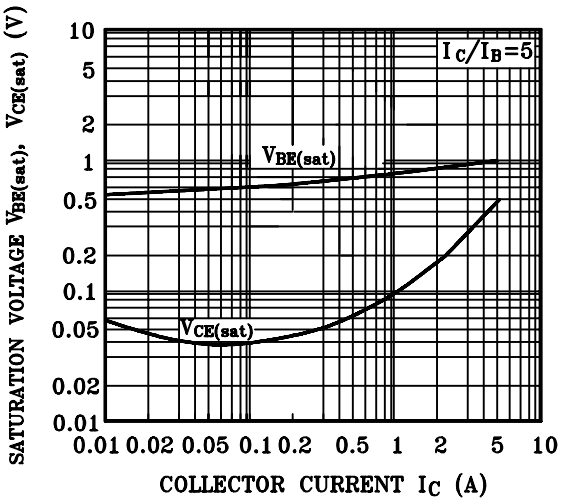
$I_C - V_{CE}$



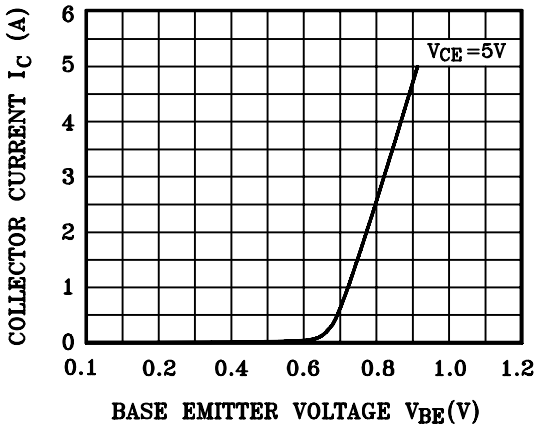
$h_{FE} - I_C$



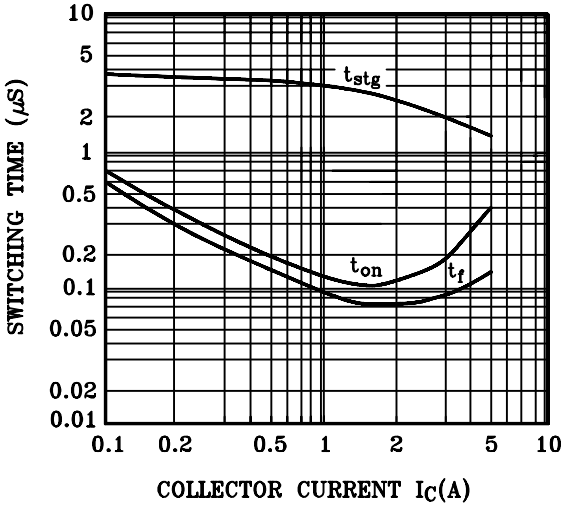
$V_{CE(sat)}$, $V_{BE(sat)}$ $-I_C$



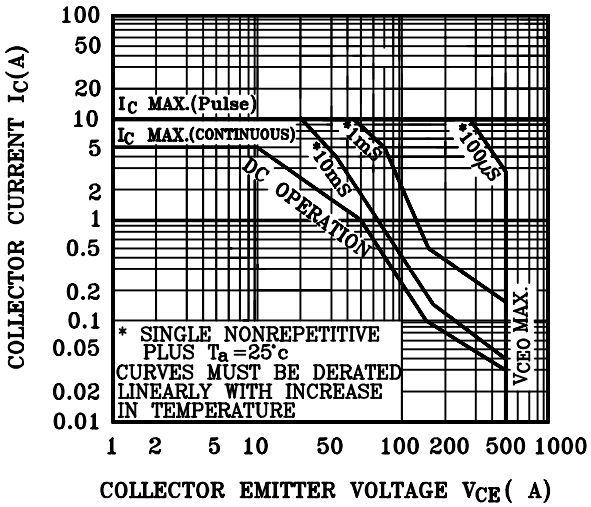
V_{BE} - I_C



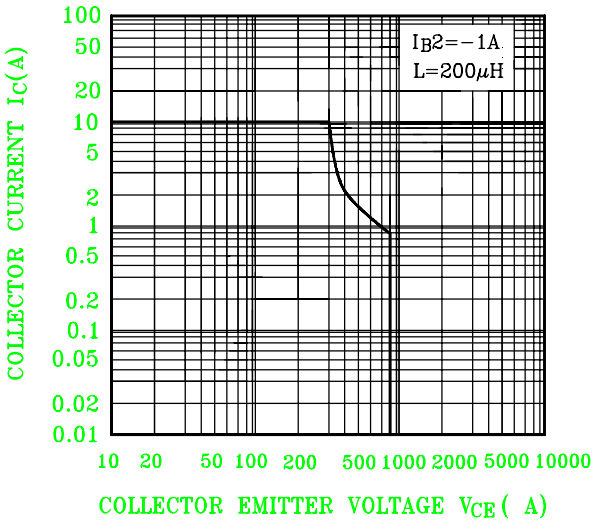
SWITCHING CHARACTERISTICS



SAFE OPERATING AREA



REVERSE BIAS SAFE OPERATING AREA



$P_C - T_a$