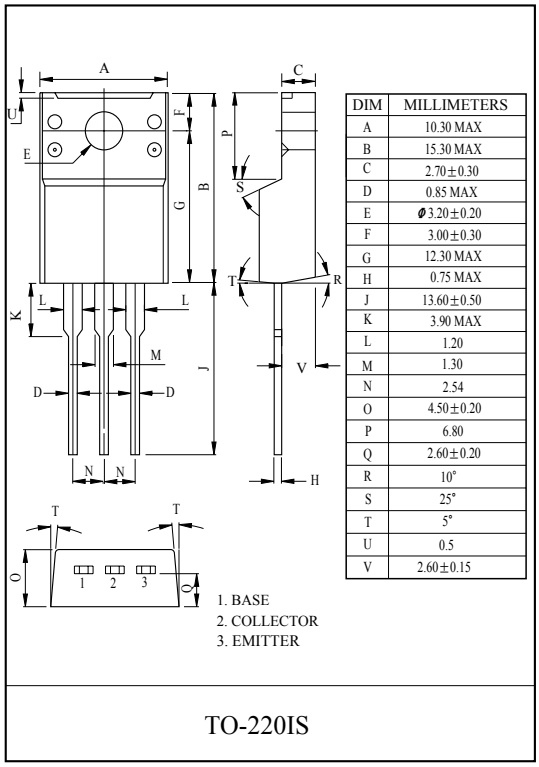
KTC4520F

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=2A.
· High Collector Voltage : V_{CEO}=500V.



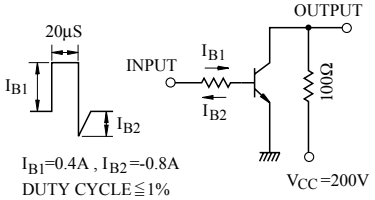
DIM	MILLIMETERS
A	10.30 MAX
B	15.30 MAX
C	2.70±0.30
D	0.85 MAX
E	Ø3.20±0.20
F	3.00±0.30
G	12.30 MAX
H	0.75 MAX
J	13.60±0.50
K	3.90 MAX
L	1.20
M	1.30
N	2.54
O	4.50±0.20
P	6.80
Q	2.60±0.20
R	10°
S	25°
T	5°
U	0.5
V	2.60±0.15

TO-220IS

MAXIMUM RATING (Ta=25℃)

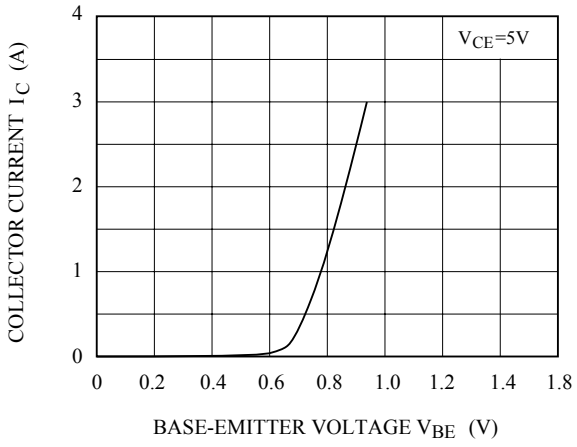
CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	800	V
Collector-Emitter Voltage		V_{CEO}	500	V
Emitter-Base Voltage		V_{EBO}	7	V
Collector Current	DC	I_C	3	A
	Pulse	I_{CP}	6	
Base Current		I_B	1	A
Collector Power Dissipation (Tc=25℃)		P_C	30	W
Junction Temperature		T_j	150	℃
Storage Temperature Range		T_{stg}	-55～150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

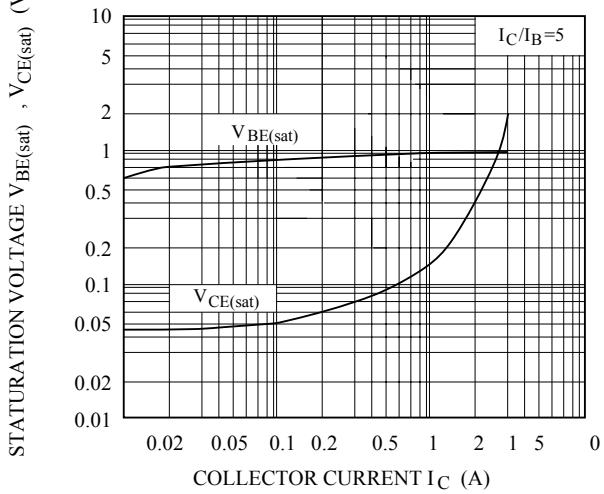
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB}=500V, I_E=0	-	-	10	μA
Emitter Cut-off Current		I_{EBO}	V_{EB}=5V, I_C=0	-	-	10	μA
Collector-Emitter Sustaning Voltage		$V_{CEX(SUS)}$	I_C=1.5A, I_{B1}=-I_{B2}=0.6A L=2mH, Clamped	500	-	-	V
Collector-Emitter 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, I_E=0, f=1MHz	-	50	-	pF
Transition Frequency		f_T	V_{CE}=10V, I_C=0.3A	-	18	-	MHz
Switching Time	Turn On Time	t_{on}		-	-	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

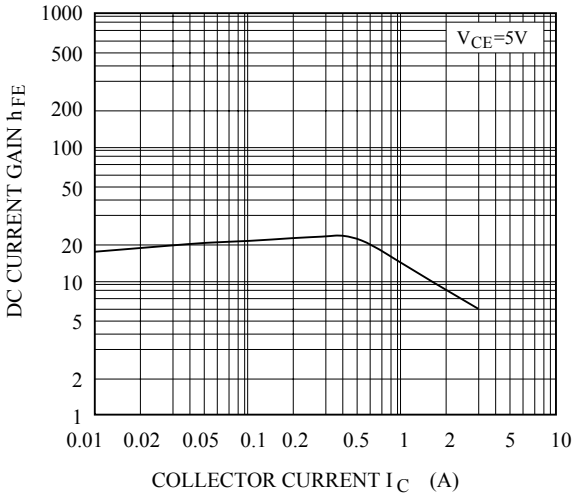
I_C - V_{BE}



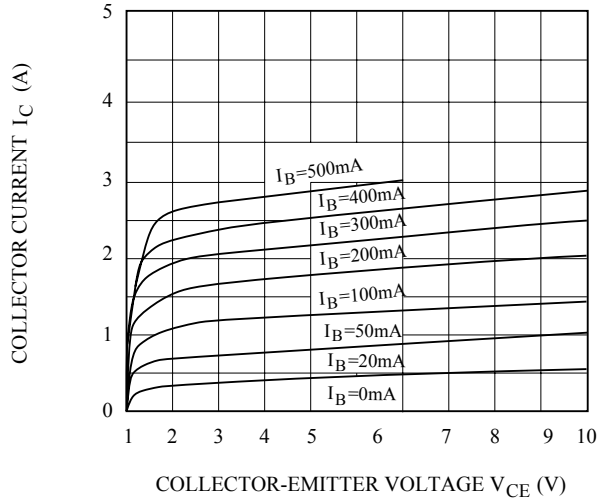
$V_{CE(sat)}$, $V_{BE(sat)}$ - I_C



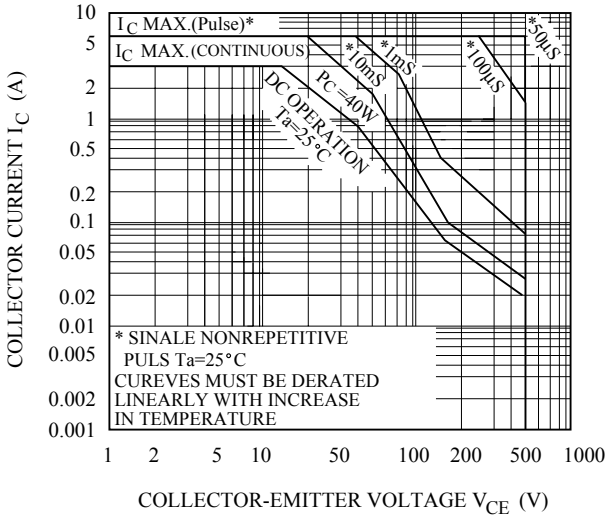
h_{FE} - I_C



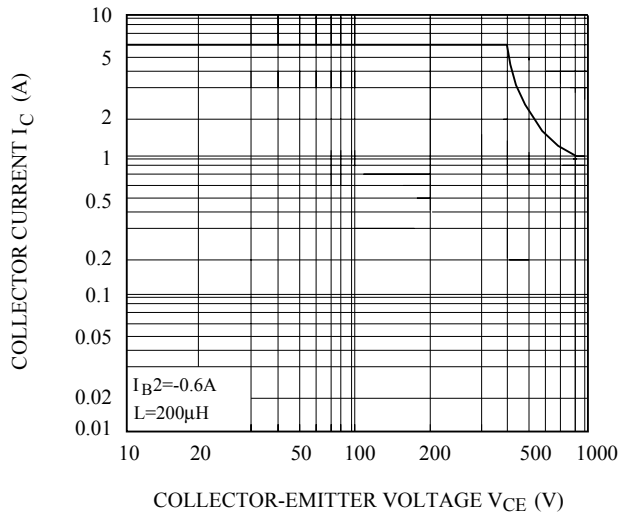
I_C - V_{CE}



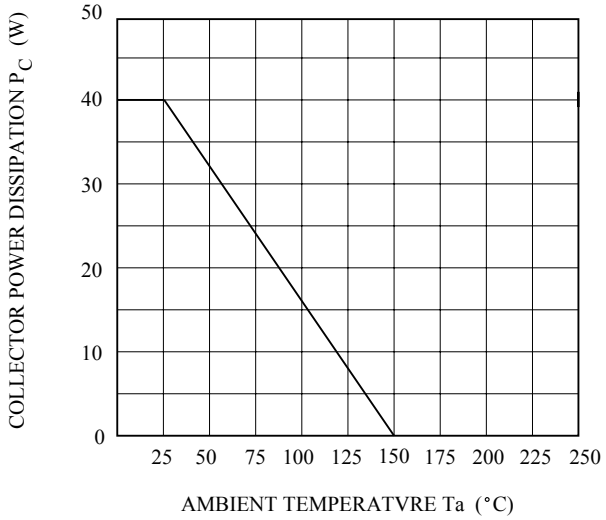
SAFE OPERATING AREA



REVERSE BIAS SAFE OPERATING AREA



Pc - Ta



SWITCHING CHARACTERISTICS