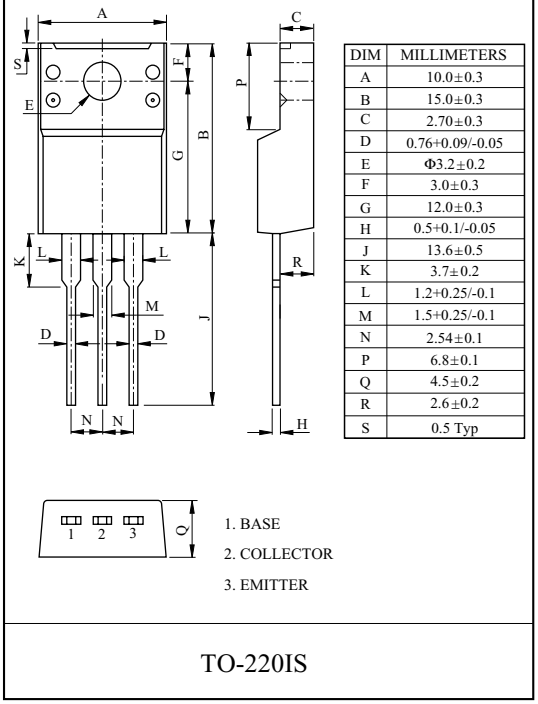
KTD1415

EPITAXIAL PLANAR NPN TRANSISTOR

HIGH POWER SWITCHING APPLICATIONS.
HAMMER DRIVER, PULSE MOTOR DRIVER APPLICATIONS.

FEATURES

- High DC Current Gain : h_{FE}=2000(Min.) at V_{CE}=3V, I_C=3A.
- Low Saturation Voltage : $V_{CE(sat)}$=1.5V(Max.) at I_C=3A.



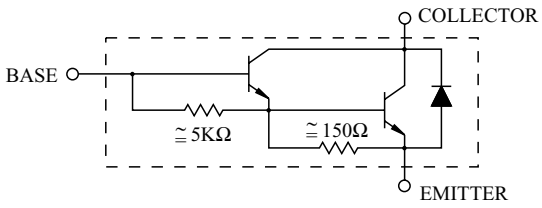
DIM	MILLIMETERS
A	10.0±0.3
B	15.0±0.3
C	2.70±0.3
D	0.76+0.09/-0.05
E	Φ3.2±0.2
F	3.0±0.3
G	12.0±0.3
H	0.5+0.1/-0.05
J	13.6±0.5
K	3.7±0.2
L	1.2+0.25/-0.1
M	1.5+0.25/-0.1
N	2.54±0.1
P	6.8±0.1
Q	4.5±0.2
R	2.6±0.2
S	0.5 Typ

TO-220IS

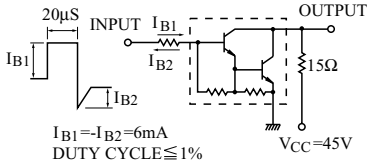
MAXIMUM RATING (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CEO}	100	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	7	A
Base Current	I_B	0.2	A
Collector Power Dissipation (Tc=25℃)	P_C	30	W
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55 ~ 150	℃

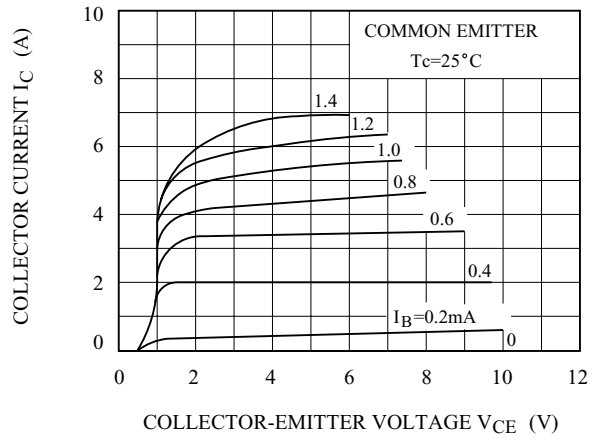
EQUIVALENT CIRCUIT



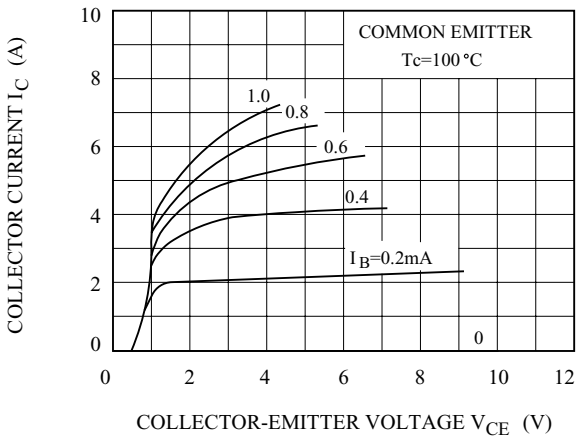
ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB}=100V, I_E=0	-	-	100	μA
Emitter Cut-off Current		I_{EBO}	V_{EB}=5V, I_C=0	-	-	3.0	mA
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	I_C=50mA, I_B=0	100	-	-	V
DC Current Gain		h_{FE}(1)	V_{CE}=3V, I_C=3A	2000	-	15000	
		h_{FE}(2)	V_{CE}=3V, I_C=7A	1000	-	-	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$(1)	I_C=3A, I_B=6mA	-	0.9	1.5	V
		$V_{CE(sat)}$(2)	I_C=7A, I_B=14mA	-	1.2	2.0	
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	I_C=3A, I_B=6mA	-	1.5	2.5	V
Switching Time	Turn-on Time	t_{on}		-	0.8	-	μS
	Storage Time	t_{stg}		-	3.0	-	
	Fall Time	t_f		-	2.5	-	

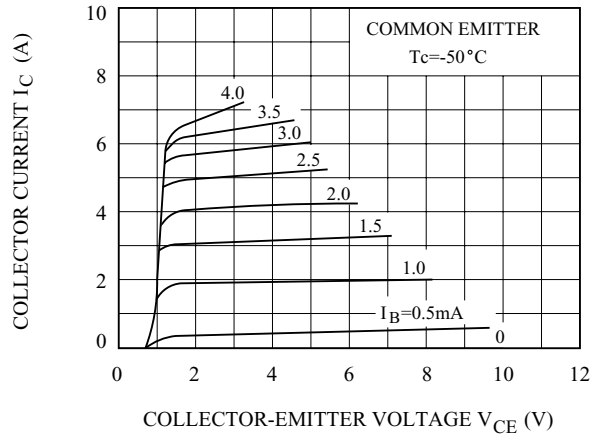
I_C - V_{CE}



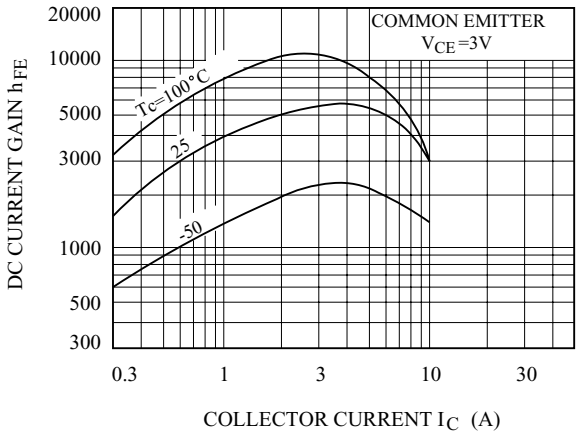
I_C - V_{CE}



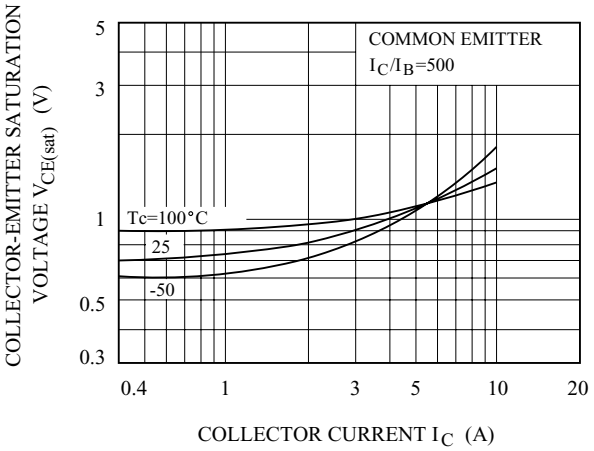
I_C - V_{CE}



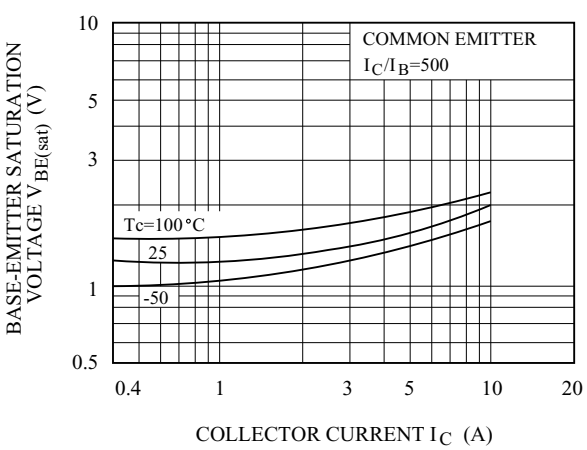
h_{FE} - I_C



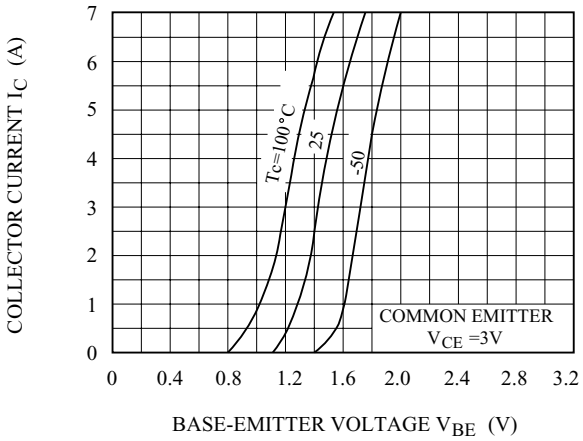
$V_{CE(sat)}$ - I_C



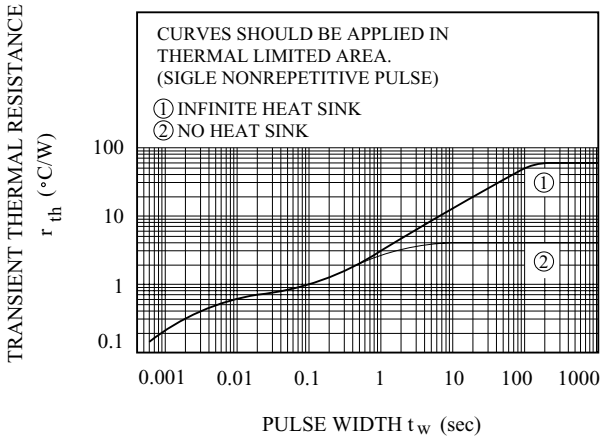
$V_{BE(sat)}$ - I_C



I_C - V_{BE}



r_{th} - t_w



SAFE OPERATING AREA