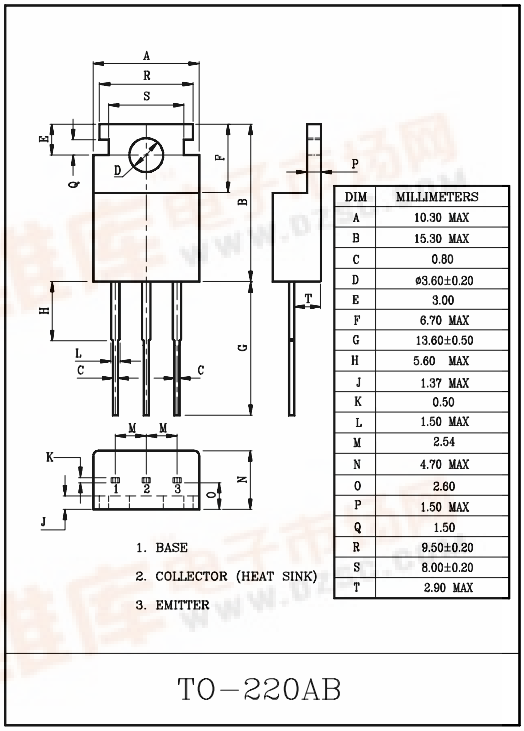
KEL
KOREA ELECTRONICS CO.,LTD.

SEMICONDUCTOR
TECHNICAL DATA

KTD686
EPITAXIAL PLANAR NPN TRANSISTOR

SWITCHING APPLICATION.
HAMMER DRIVER, PULSE MOTOR DRIVE APPLICATION.

FEATURE
• High DC Current Gain : h_{FE}=2000(Min.) (V_{CE}=2V, I_C=1A).



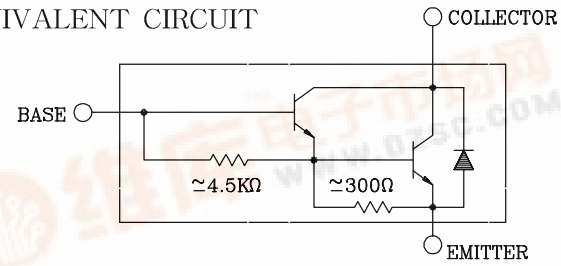
DIM	MILLIMETERS
A	10.30 MAX
B	15.30 MAX
C	0.80
D	ø3.60±0.20
E	3.00
F	6.70 MAX
G	13.60±0.50
H	5.60 MAX
J	1.37 MAX
K	0.50
L	1.50 MAX
M	2.54
N	4.70 MAX
O	2.60
P	1.50 MAX
Q	1.50
R	9.50±0.20
S	8.00±0.20
T	2.90 MAX

TO-220AB

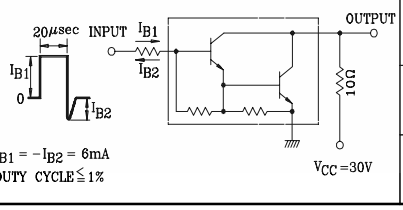
MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CEO}	80	V
Emitter-Base Voltage	V_{EBO}	5	V
Continuous Collector Current	I_C	4	A
Collector Power Dissipation (Tc=25℃)	P_C	30	W
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55~150	℃

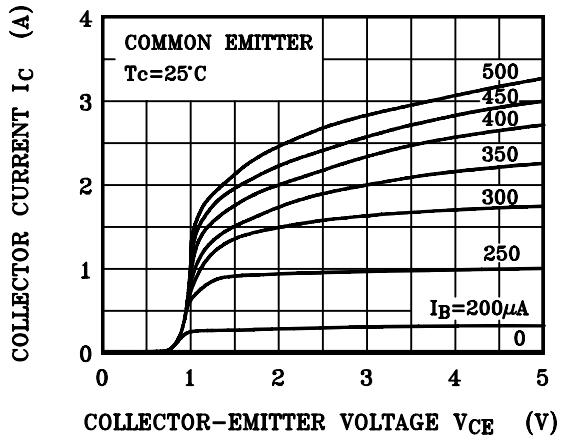
EQUIVALENT CIRCUIT



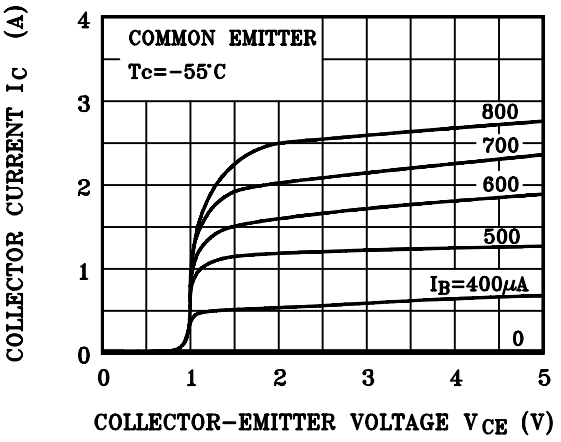
ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB}=100V, I_E=0	-	-	20	μA
Emitter Cut-off Current		I_{EBO}	V_{EB}=5V, I_C=0	-	-	2.5	mA
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	I_C=10mA, I_B=0	80	-	-	V
DC Current Gain		h_{FE}(1)	V_{CE}=2V, I_C=1A	2000	-	-	
		h_{FE}(2)	V_{CE}=2V, I_C=3A	1000	-	-	
Saturation Voltage	Collector-Emitter	$V_{CE(sat)}$	I_C=3A, I_B=6mA	-	-	1.5	V
	Base-Emitter	$V_{BE(sat)}$	I_C=3A, I_B=6mA	-	-	2.0	
Switching Time	Turn-on Time	t_{on}		-	0.2	-	μS
	Storage Time	t_{stg}		-	1.5	-	
	Fall Time	t_f		-	0.6	-	

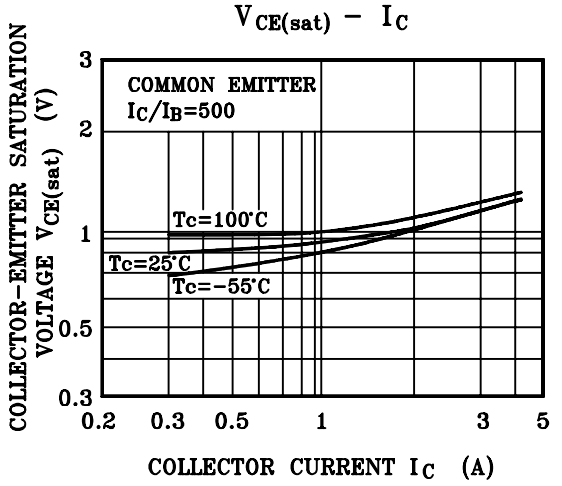
I_C – V_{CE}



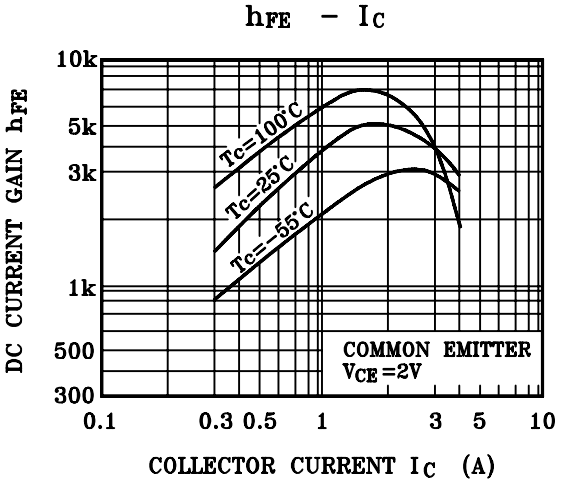
I_C – V_{CE}



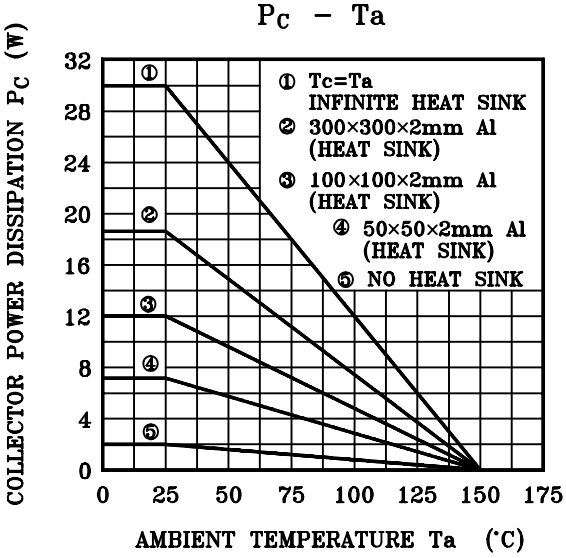
$V_{CE(sat)}$ – I_C



h_{FE} – I_C



P_C – Ta



SAFE OPERATING AREA