

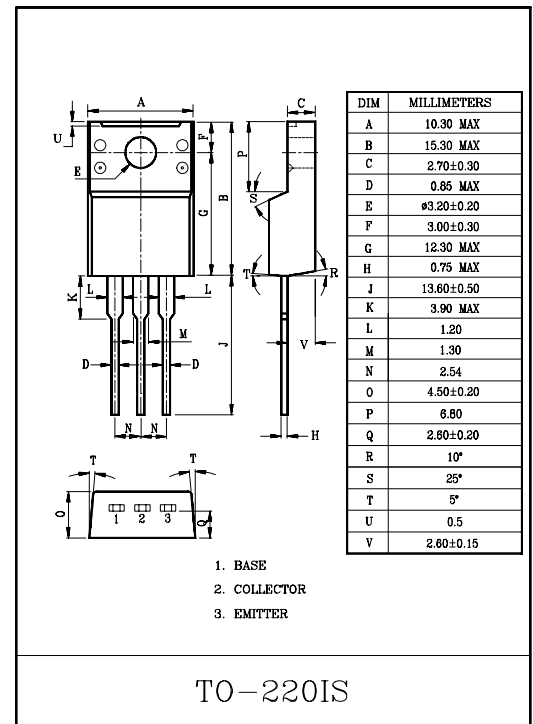
HIGH POWER SWITCHING APPLICATIONS.  
HAMMER DRIVER, PULSE MOTOR DRIVER  
APPLICATIONS.

### FEATURES

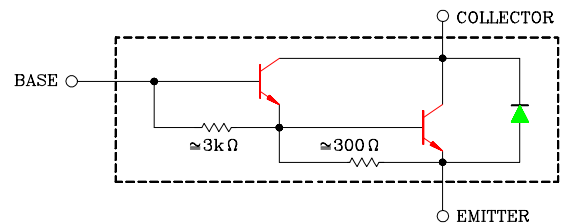
- High DC Current Gain :  $h_{FE}=2000(\text{Min.})$  at  $V_{CE}=2V, I_C=3A$ .
- Low Saturation Voltage :  $V_{CE(\text{sat})}=1.5V(\text{Max.})$  at  $I_C=3A$ .

### MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$ )

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	150	V
Collector-Emitter Voltage	$V_{CEO}$	100	V
Emitter-Base Voltage	$V_{EB0}$	7	V
Collector Current	$I_C$	5	A
Base Current	$I_B$	0.5	A
Collector Power Dissipation ( $T_c=25^\circ\text{C}$ )	$P_C$	25	W
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{\text{stg}}$	-55~150	$^\circ\text{C}$



### EQUIVALENT CIRCUIT

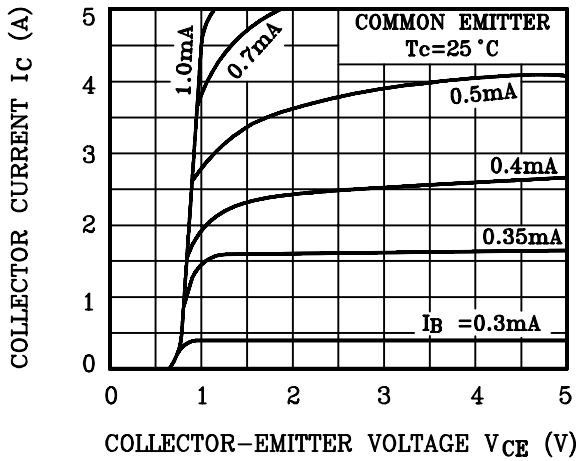


### ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$ )

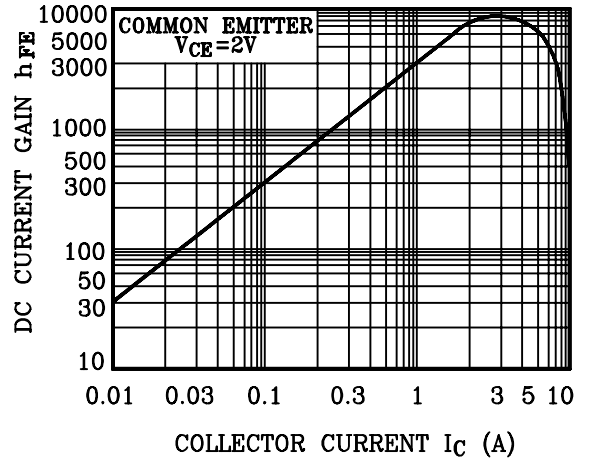
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		$I_{CBO}$	$V_{CB}=100V, I_B=0$	-	-	1	mA
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C=10mA, I_B=0$	100	-	-	V
DC Current Gain		$h_{FE(1)}$	$V_{CE}=2V, I_C=3A$	2000	6000	15000	
		$h_{FE(2)}$	$V_{CE}=2V, I_C=5A$	500	-	-	
Saturation Voltage	Collector-Emitter	$V_{CE(\text{sat})}$	$I_C=3A, I_B=3mA$	-	0.9	1.5	V
	Base-Emitter	$V_{BE(\text{sat})}$	$I_C=3A, I_B=3mA$	-	1.6	2.0	
Switching Time	Turn-on Time	$t_{on}$	<p><math>I_{B1} = -I_{B2} = 3mA</math> DUTY CYCLE <math>\leq 1\%</math> <math>V_{CC} = 50V</math></p>	-	1.0	-	$\mu\text{S}$
	Storage Time	$t_{\text{stg}}$		-	3.5	-	
	Fall Time	$t_f$		-	1.2	-	

# KTD1413

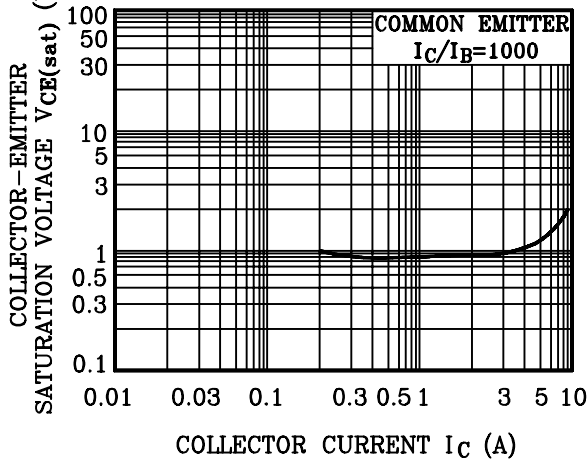
$I_C - V_{CE}$



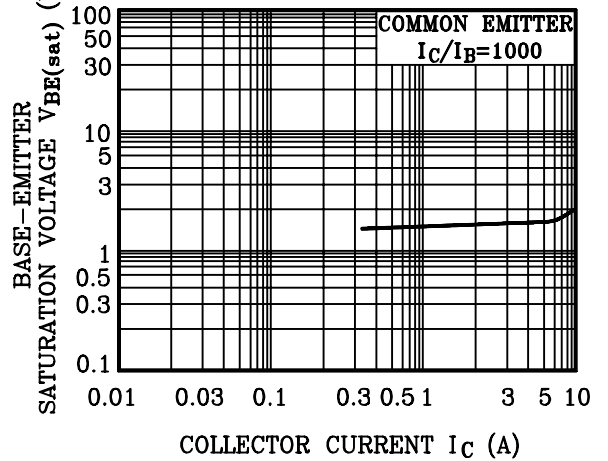
$h_{FE} - I_C$



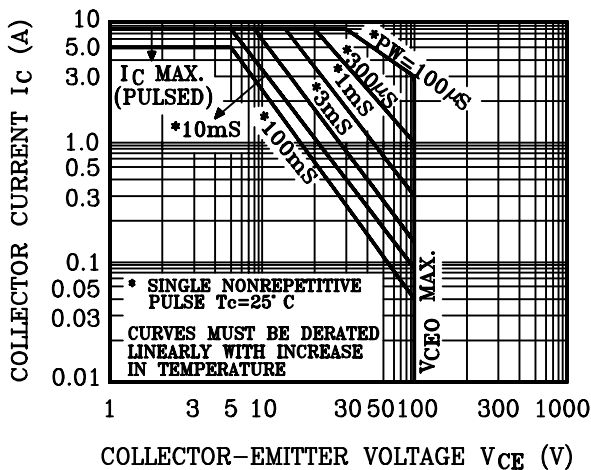
$V_{CE(sat)} - I_C$



$V_{BE(sat)} - I_C$



SAFE OPERATING AREA



$P_C - T_a$

