

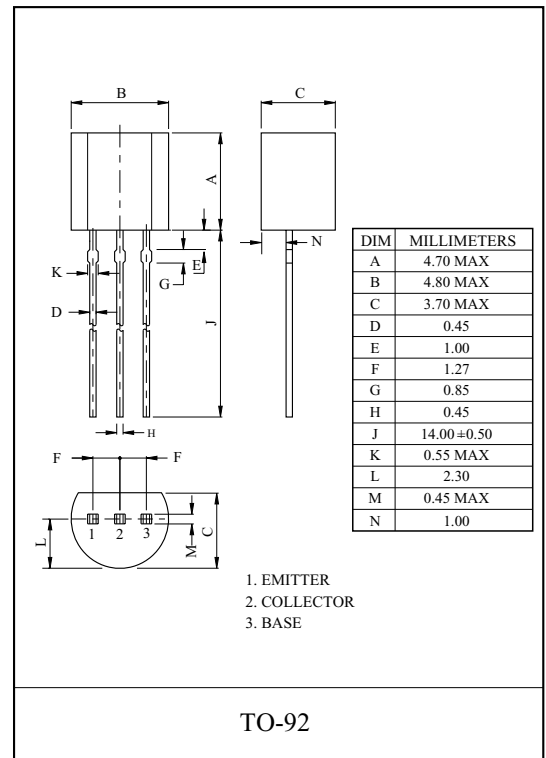
SWITCHING REGULATOR APPLICATION.  
HIGH VOLTAGE AND HIGH SPEED  
SWITCHING APPLICATION.

### FEATURES

- Excellent Switching Times  
:  $t_{on}=1.1\mu\text{s}(\text{Typ.})$ ,  $t_r=0.7\mu\text{s}(\text{Typ.})$ , at  $I_C=1\text{A}$
- High Collector Voltage :  $V_{CBO}=900\text{V}$ .

### MAXIMUM RATING (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	900	V
Collector-Emitter Voltage	$V_{CEO}$	530	V
Emitter-Base Voltage	$V_{EBO}$	9	V
Collector Current	DC	$I_C$	1.5
	Pulse	$I_{CP}$	3
Base Current	$I_B$	0.75	A
Collector Power Dissipation	$P_C$	1.1	W
Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_{stg}$	-55 ~ 150	°C



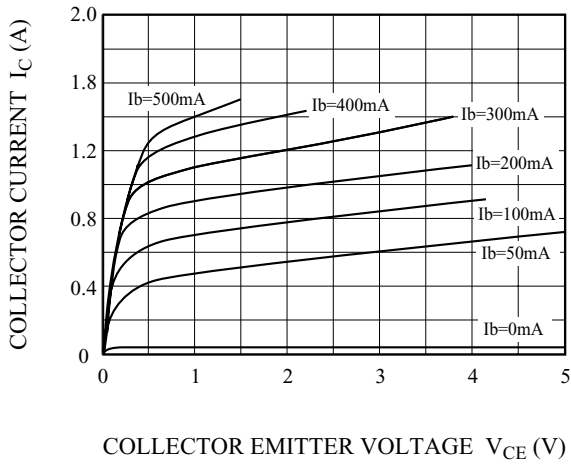
### ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=9\text{V}$ , $I_C=0$	-	-	10	$\mu\text{A}$	
DC Current Gain	$h_{FE}(1)$	$V_{CE}=10\text{V}$ , $I_C=10\text{mA}$	15	-	50		
	* $h_{FE}(2)$	$V_{CE}=10\text{V}$ , $I_C=0.4\text{A}$	20	-	50		
	$h_{FE}(3)$	$V_{CE}=10\text{V}$ , $I_C=1\text{A}$	6	-	-		
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=0.5\text{A}$ , $I_B=0.1\text{A}$	-	-	0.8	V	
		$I_C=1.5\text{A}$ , $I_B=0.5\text{A}$	-	-	2.5		
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=0.5\text{A}$ , $I_B=0.1\text{A}$	-	-	1	V	
		$I_C=1\text{A}$ , $I_B=0.25\text{A}$	-	-	1.2		
Collector Output Capacitance	$C_{ob}$	$V_{CB}=10\text{V}$ , $f=0.1\text{MHz}$ , $I_E=0$	-	21	-	pF	
Transition Frequency	$f_T$	$V_{CE}=10\text{V}$ , $I_C=0.1\text{A}$	4	-	-	MHz	
Turn-On Time	$t_{on}$	<p><math>I_{B1}=I_{B2}=0.2\text{A}</math> DUTY CYCLE <math>\leq 2\%</math></p>	-	1.1	-	$\mu\text{s}$	
Storage Time	$t_{stg}$		-	-	3.0	-	$\mu\text{s}$
Fall Time	$t_f$		-	-	0.7	-	$\mu\text{s}$

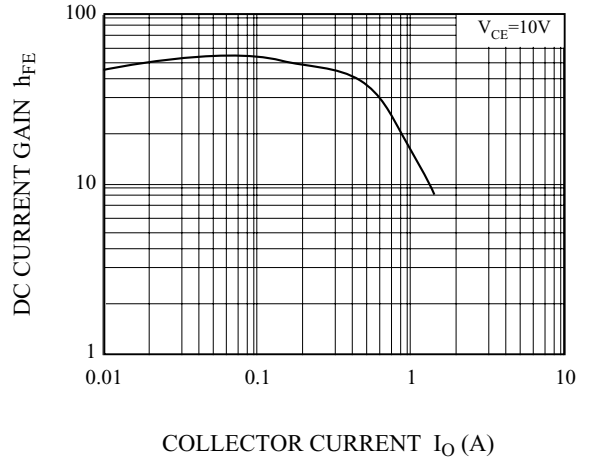
\*Note :  $h_{FE}$  Classification R:20~30, O:13~21, Y: 35~40

# KTC3003HV

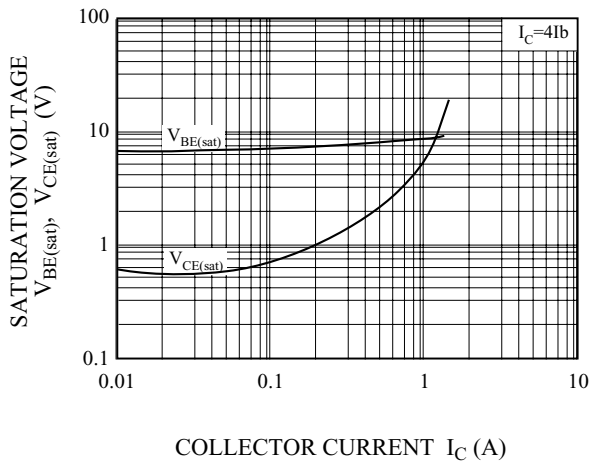
STATIC CHARACTERISTIC



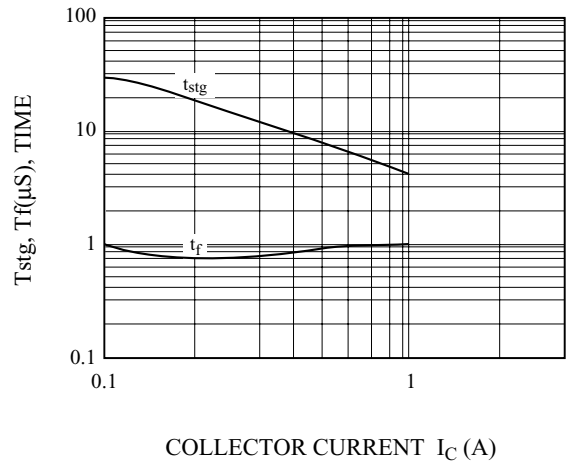
DC CURRENT GAIN



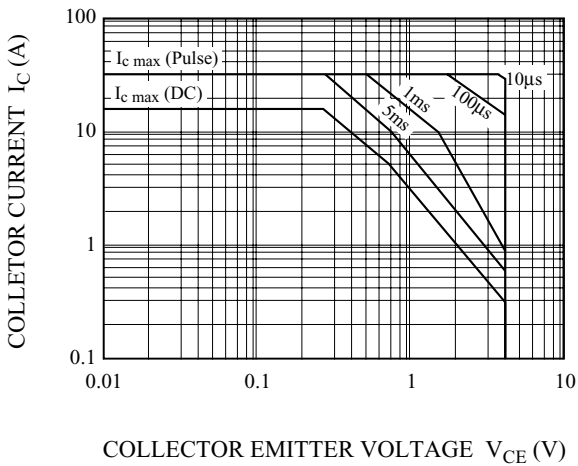
$V_{CE(sat)}$  vs.  $V_{BE(sat)}$



SWITCHING TIME



SAFE OPERATING AREA



$P_C - T_a$

