

## NPN Transistors

### KTC2016

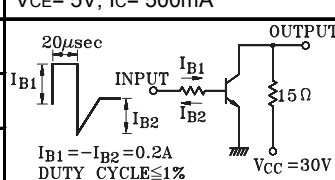
#### ■ Features

- Low Collector Emitter Saturation Voltage.
- Complementary to KTA1036

#### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

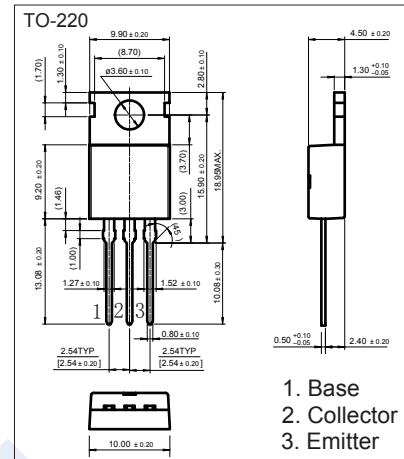
Parameter	Symbol	Rating	Unit	
Collector - Base Voltage	$V_{CB0}$	60	V	
Collector - Emitter Voltage	$V_{CE0}$	60		
Emitter - Base Voltage	$V_{EB0}$	7		
Collector Current - Continuous	$I_C$	3	A	
Base Current	$I_B$	0.5		
Collector Power Dissipation	$P_C$	$T_a = 25^\circ\text{C}$	2	W
		$T_c = 25^\circ\text{C}$	30	
Junction Temperature	$T_J$	150	$^\circ\text{C}$	
Storage Temperature Range	$T_{stg}$	-55 to 150		

#### ■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Collector- base breakdown voltage	$V_{CB0}$	$I_C = 100 \mu\text{A}$ , $I_E = 0$	60			V	
Collector- emitter breakdown voltage	$V_{CE0}$	$I_C = 50 \text{ mA}$ , $I_B = 0$	60				
Emitter - base breakdown voltage	$V_{EB0}$	$I_E = 100 \mu\text{A}$ , $I_C = 0$	7				
Collector-base cut-off current	$I_{CB0}$	$V_{CB} = 60 \text{ V}$ , $I_E = 0$			0.1	$\mu\text{A}$	
Emitter cut-off current	$I_{EB0}$	$V_{EB} = 7 \text{ V}$ , $I_C = 0$			0.1		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 2 \text{ A}$ , $I_B = 200 \text{ mA}$			1	V	
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 2 \text{ A}$ , $I_B = 200 \text{ mA}$			1.2		
Base - emitter voltage	$V_{BE}$	$V_{CE} = 5 \text{ V}$ , $I_C = 500 \text{ mA}$			1		
DC current gain	$h_{FE}$	$V_{CE} = 5 \text{ V}$ , $I_C = 500 \text{ mA}$	100		300		
Turn On Time	$t_{on}$	 <p><math>I_{B1} = -I_{B2} = 0.2 \text{ A}</math> DUTY CYCLE <math>\leq 1\%</math> <math>V_{CC} = 30 \text{ V}</math></p>		0.65		$\mu\text{s}$	
Storage Time	$t_{stg}$				1.3		
Fall Time	$t_f$				0.65		
Collector output capacitance	$C_{ob}$	$V_{CB} = 10 \text{ V}$ , $I_E = 0$ , $f = 1 \text{ MHz}$			35	$\text{pF}$	
Transition frequency	$f_T$	$V_{CE} = 5 \text{ V}$ , $I_C = 500 \text{ mA}$			30	$\text{MHz}$	

#### ■ Classification of $h_{FE}$

Type	KTC2016-Y	KTC2016-G
Range	100-200	150-300



### NPN Transistors

### KTC2016

■ Typical Characteristics

