

NPN Transistors

KTC2016

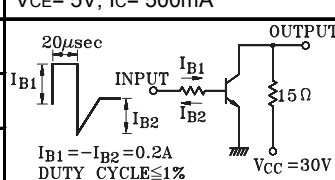
■ Features

- Low Collector Emitter Saturation Voltage.
- Complementary to KTA1036

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

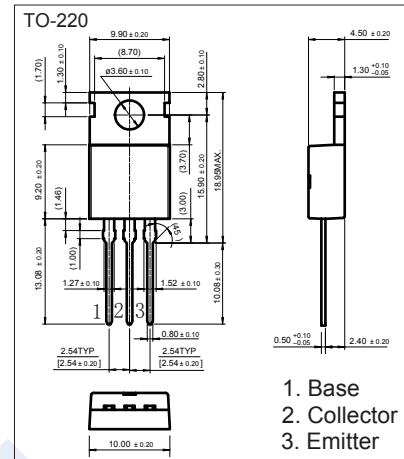
Parameter	Symbol	Rating	Unit	
Collector - Base Voltage	V_{CB0}	60	V	
Collector - Emitter Voltage	V_{CE0}	60		
Emitter - Base Voltage	V_{EB0}	7		
Collector Current - Continuous	I_C	3	A	
Base Current	I_B	0.5		
Collector Power Dissipation	P_C	$T_a = 25^\circ\text{C}$	2	W
		$T_c = 25^\circ\text{C}$	30	
Junction 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	μA	
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>$I_{B1} = -I_{B2} = 0.2 \text{ A}$ DUTY CYCLE $\leq 1\%$ $V_{CC} = 30 \text{ V}$</p>		0.65		μs	
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	pF	
Transition frequency	f_T	$V_{CE} = 5 \text{ V}$, $I_C = 500 \text{ mA}$			30	MHz	

■ Classification of h_{FE}

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



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■ Typical Characteristics

