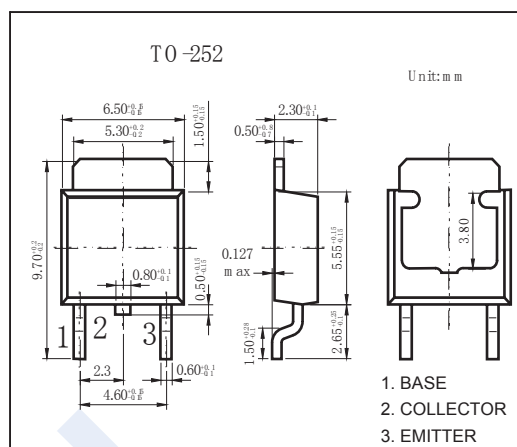


NPN Transistors

KTC2020D

■ Features

- Low $V_{CE(sat)} \leq 1.0V$
- General purpose amplifier for surface mount applications.
- Complementary to KTA1040D.

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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	60	V
Collector - Emitter Voltage	V_{CEO}	60	
Emitter - Base Voltage	V_{EBO}	7	
Collector Current - Continuous	I_C	3	A
Collector Power Dissipation	P_C	1	W
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55 to 150	

■ Electrical Characteristics $T_a = 25^\circ C$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	$I_C = 1 \text{ mA}, I_E = 0$	60			V
Collector- emitter breakdown voltage	V_{CEO}	$I_C = 50 \text{ mA}, I_B = 0$	60			
Emitter - base breakdown voltage	V_{EBO}	$I_E = 3 \text{ mA}, I_C = 0$	7			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 60 \text{ V}, I_E = 0$			100	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 7 \text{ V}, I_C = 0$			100	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 2 \text{ A}, I_B = 200 \text{ mA}$			1.0	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}	$V_{CE} = 5 \text{ V}, I_B = 500 \text{ mA}$			1.0	
DC current gain	h_{FE}	$V_{CE} = 5 \text{ V}, I_C = 500 \text{ mA}$	100		300	
Collector output capacitance	C_{ob}	$V_{CB} = 10 \text{ V}, I_E = 0, f = 0.1 \text{ MHz}$		35		μF
Transition frequency	f_T	$V_{CE} = 5 \text{ V}, I_C = 500 \text{ mA}$		30		MHz

■ h_{FE} Classification

Rank	Y	GR
h_{FE}	100~200	150~300

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■ Typical Characteristics

