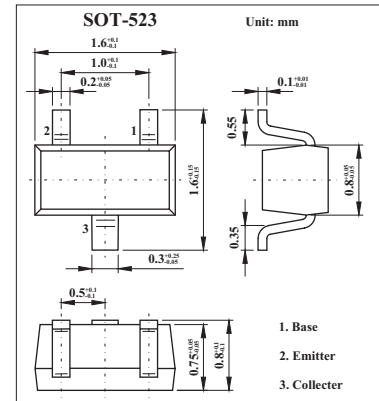


## NPN General Purpose Transistors

## KC847T(BC847T)

## ■ Features

- Low current (max. 100 mA)
- Low voltage (max. 45 V).

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CB0}$	50	V
Collector-emitter voltage	$V_{CEO}$	45	V
Emitter-base voltage	$V_{EB0}$	5	V
Collector current (DC)	$I_C$	100	mA
Peak collector current	$I_{CM}$	200	mA
power dissipation	$P_D$	150	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-65 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
collector cut-off current	$I_{CBO}$	$I_E = 0; V_{CB} = 30\text{ V}$			15	nA
		$I_E = 0; V_{CB} = 30\text{ V}; T_j = 150^\circ\text{C}$			5	$\mu\text{ A}$
emitter cut-off current	$I_{EBO}$	$I_C = 0; V_{EB} = 5\text{ V}$			100	nA
DC current gain	KC847AT	$I_C = 2\text{ mA}; V_{CE} = 5\text{ V}$	110		220	
	KC847BT		200		450	
	KC847CT		420		800	
collector-emitter saturation voltage	$V_{CEsat}$	$I_C = 10\text{ mA}; I_B = 0.5\text{ mA}$			200	mV
		$I_C = 100\text{ mA}; I_B = 5\text{ mA}; *$			400	mV
base-emitter voltage	$V_{BE}$	$I_C = 2\text{ mA}; V_{CE} = 5\text{ V}$	580		700	mV
		$I_C = 10\text{ mA}; V_{CE} = 5\text{ V}$			770	mV
collector capacitance	$C_c$	$I_E = I_C = 0; V_{CB} = 10\text{ V}; f = 1\text{ MHz}$			1.5	pF
emitter capacitance	$C_e$	$I_C = I_E = 0; V_{EB} = 500\text{ mV}; f = 1\text{ MHz}$		11		pF
noise figure	F	$I_C = 200\ \mu\text{ A}; V_{CE} = 5\text{ V}; R_s = 2\text{ k}\Omega; f = 1\text{ kHz}; B = 200\text{ Hz}$			10	dB
transition frequency	$f_T$	$I_C = 10\text{ mA}; V_{CE} = 5\text{ V}; f = 100\text{ MHz}$	100			MHz

\* Pulse test:  $t_p \leq 300\text{ ms}; \delta \leq 0.02$ .

## ■ Marking

NO.	KC847AT	KC847BT	KC847CT
Marking	1E	1F	1G