
2SC1472(K)

Silicon NPN Epitaxial, Darlington

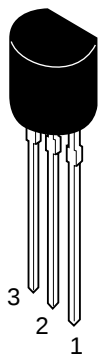
HITACHI

Application

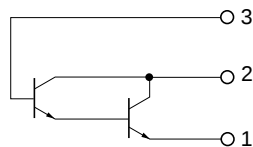
High gain amplifier

Outline

TO-92 (1)



- 1. Emitter
- 2. Collector
- 3. Base



2SC1472 (K)

Absolute Maximum Ratings (Ta = 25°C)

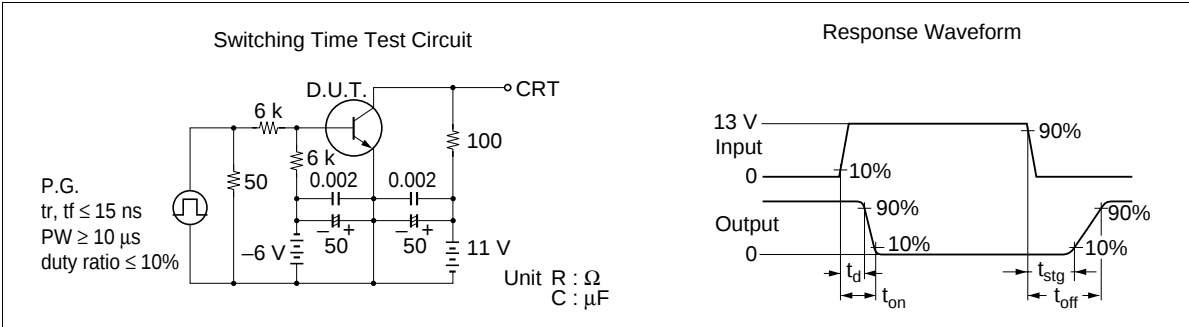
Item	Symbol	Ratings	Unit
Collector to base voltage	V _{CBO}	40	V
Collector to emitter voltage	V _{CEO}	30	V
Emitter to base voltage	V _{EBO}	10	V
Collector current	I _C	300	mA
Collector peak current	i _{C(peak)}	500	mA
Collector power dissipation	P _C	500	mW
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	−55 to +150	°C

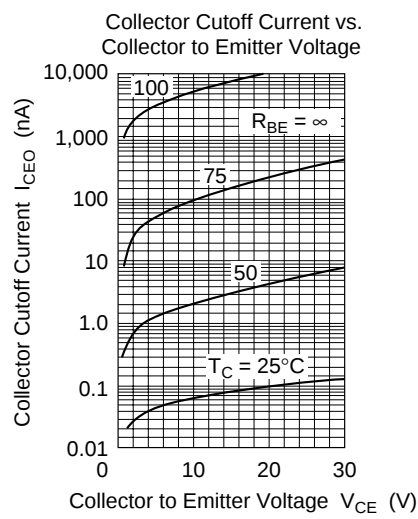
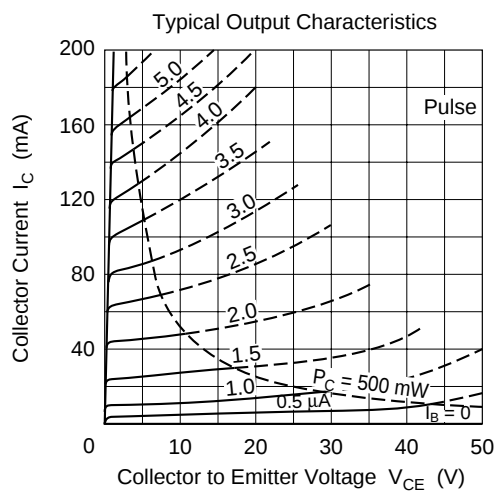
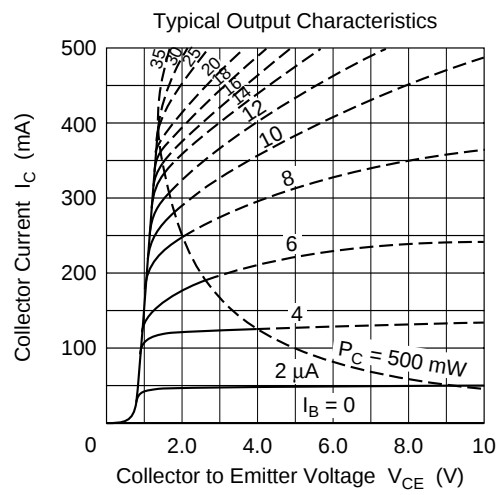
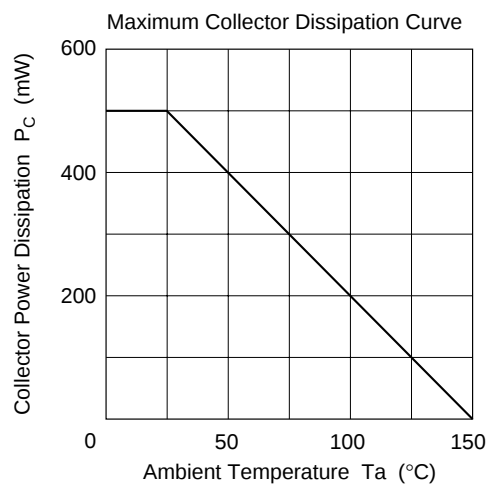
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	30	—	—	V	$I_C = 1\text{ mA}$, $R_{BE} = \infty$
Collector cutoff current	I_{CBO}	—	—	100	nA	$V_{CB} = 30\text{ V}$, $I_E = 0$
Emitter cutoff current	I_{EBO}	—	—	100	nA	$V_{EB} = 10\text{ V}$, $I_C = 0$
DC current transfer ratio	h_{FE1}^{*1}	2000	—	100000		$I_C = 10\text{ mA}$, $V_{CE} = 5\text{ V}$
	h_{FE2}^{*1}	3000	—	—		$I_C = 100\text{ mA}$, $V_{CE} = 5\text{ V}$ (Pulse Test)
	h_{FE3}^{*1}	3000	—	—		$I_C = 400\text{ mA}$, $V_{CE} = 5\text{ V}$ (Pulse Test)
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1.5	V	$I_C = 100\text{ mA}$, $I_B = 0.1\text{ mA}$
Base to emitter voltage	$V_{BE(sat)}$	—	—	2.0	V	$I_C = 100\text{ mA}$, $I_B = 0.1\text{ mA}$
Gain bandwidth product	f_T	50	—	—	MHz	$V_{CE} = 5\text{ V}$, $I_C = 10\text{ mA}$
Collector output capacitance	C_{ob}	—	—	10	pF	$V_{CB} = 10\text{ V}$, $I_E = 0$, $f = 1\text{ MHz}$
Turn on time	t_{on}	—	60	—	ns	$V_{CC} = 11\text{ V}$ $I_C = 100\text{ mA}$, $I_{B1} = 100\text{ mA}$ $I_{B2} = -I_{B1}$
Turn off time	t_{off}	—	800	—	ns	
Storage time	t_{stg}	—	350	—	ns	

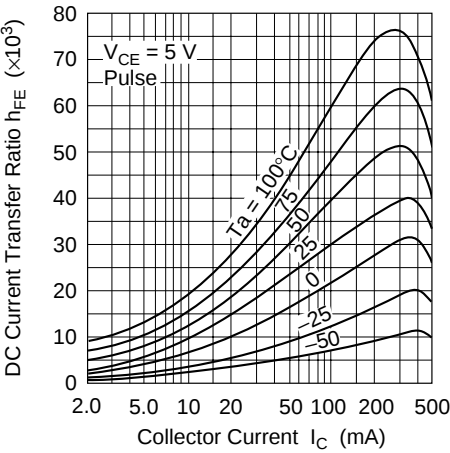
Note: 1. The 2SC1472(K) is grouped by h_{FE} as follows.

	A	B
h_{FE1}	2000 to 100000	5000 to 100000
h_{FE2}	3000 min	10000 min
h_{FE3}	3000 min	10000 min

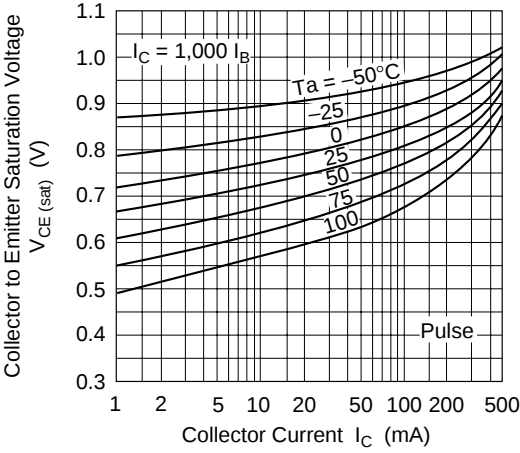




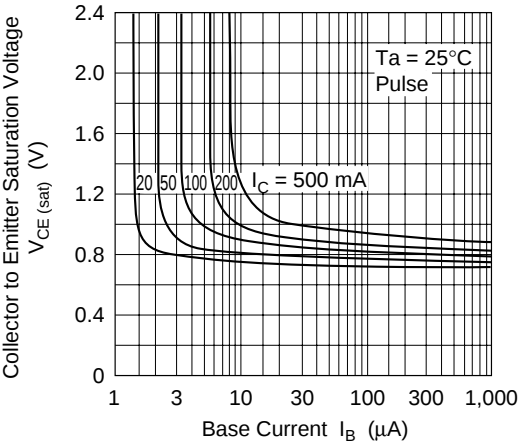
DC Current Transfer Ratio vs.
Collector Current



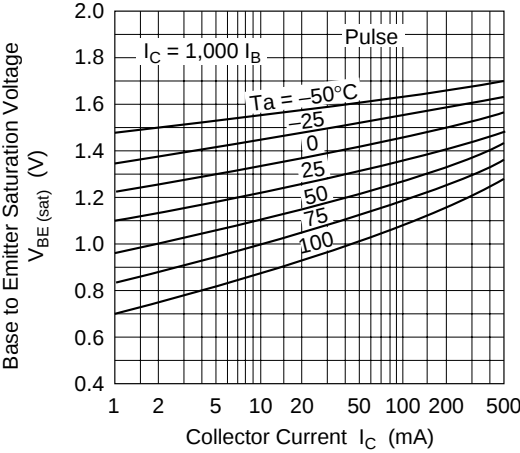
Collector to Emitter Saturation
Voltage vs. Collector Current

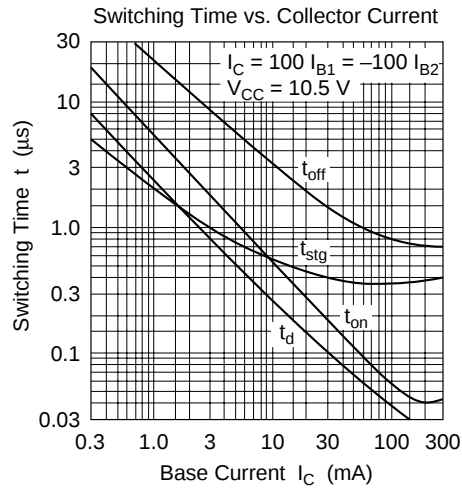
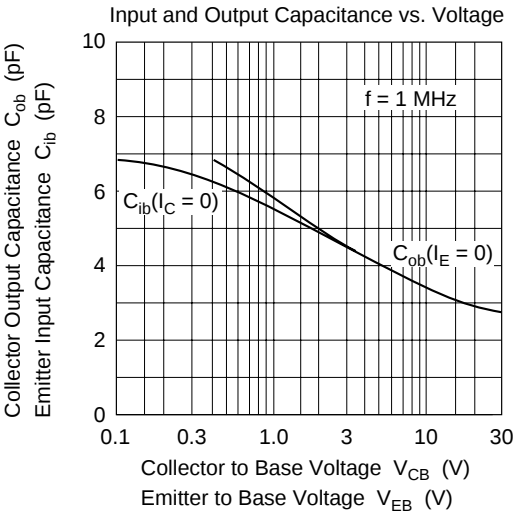


Collector to Emitter Saturation
Voltage vs. Base Current

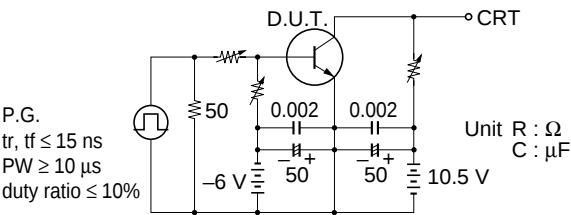


Base to Emitter Saturation
Voltage vs. Collector Current

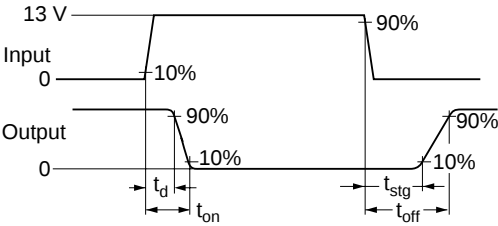


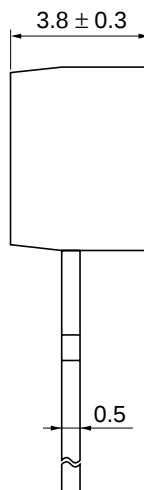
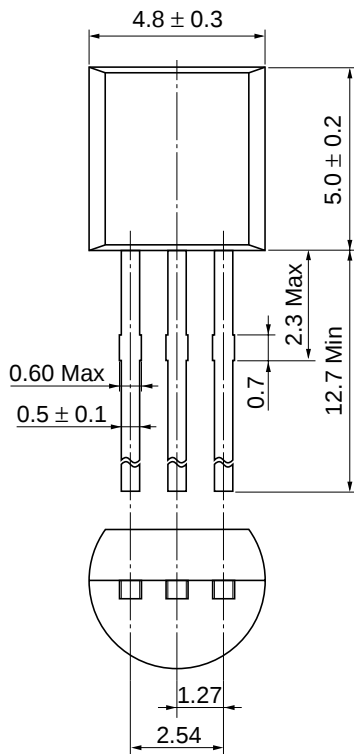


Switching Time Test Circuit



Response Waveform





Hitachi Code	TO-92 (1)
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	0.25 g

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