
2SA673A(K)

Silicon PNP Epitaxial

HITACHI

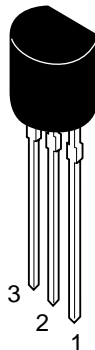
ADE-208-313A (Z)
2nd. Edition
Mar. 2001

Application

- Low frequency amplifier
- Medium speed switching

Outline

TO-92 (1)



1. Emitter
2. Collector
3. Base

2SA673A(K)

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	-50	V
Collector to emitter voltage	V_{CEO}	-50	V
Emitter to base voltage	V_{EBO}	-4	V
Collector current	I_C	-0.5	A
Collector power dissipation	P_C	0.4	W
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 base breakdown voltage	$V_{(BR)CBO}$	-50	—	—	V	$I_C = -10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-50	—	—	V	$I_C = -1 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	-4	—	—	V	$I_E = -10 \mu A, I_C = 0$
Collector cutoff current	I_{CBO}	—	—	-0.5	μA	$V_{CE} = -20 \text{ V}, I_E = 0$
Emitter cutoff current	I_{EBO}	—	—	-0.5	μA	$V_{EB} = -3 \text{ V}, I_C = 0$
Base to emitter voltage	V_{BE}	—	-0.64	—	V	$V_{CE} = -3 \text{ V}, I_C = -10 \text{ mA}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	-0.2	-0.6	V	$I_C = -150 \text{ mA}, I_B = -15 \text{ mA}^{*2}$
Base to emitter saturation voltage	$V_{BE(sat)}$	—	-0.87	—	V	$I_C = -150 \text{ mA}, I_B = -15 \text{ mA}^{*2}$
DC current transfer ratio	h_{FE}^{*1}	60	—	320		$V_{CE} = -3 \text{ V}, I_C = -10 \text{ mA}$
	h_{FE}	10	—	—		$V_{CE} = -3 \text{ V}, I_C = -500 \text{ mA}^{*2}$
Gain bandwidth product	f_T	—	120	—	MHz	$V_{CE} = -3 \text{ V}, I_C = -10 \text{ mA}$
Turn on time	t_{on}	—	0.3	—	μs	$V_{CC} = -10.3 \text{ V}$
Turn off time	t_{off}	—	0.6	—	μs	$I_C = 10 \text{ mA}, I_{B1} = -10 \text{ mA}, I_{B2} = -10 \text{ mA}$
Storage time	t_{stg}	—	0.4	—	μs	$V_{CC} = -5 \text{ V}, I_C = I_{B1} = I_{B2} = -20 \text{ mA}$

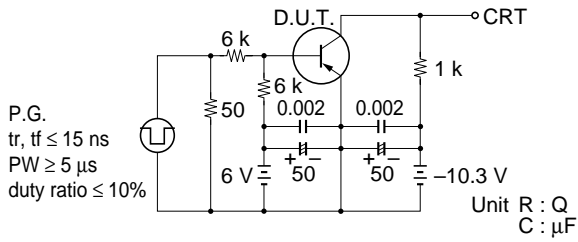
Notes: 1. The 2SA673A(K) is grouped by h_{FE} as follows.

2. Pulse test

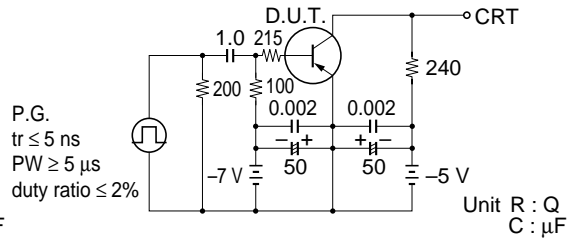
B	C	D
60 to 120	100 to 200	160 to 320

See 2SA673A except for the above – mentioned characteristic curves.

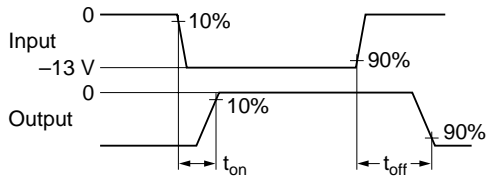
Switching Time Test Circuit
 t_{on} , t_{off} Test Circuit



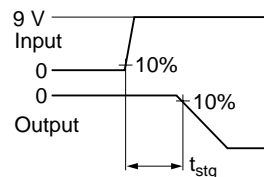
Switching Time Test Circuit
 t_{stg} Test Circuit

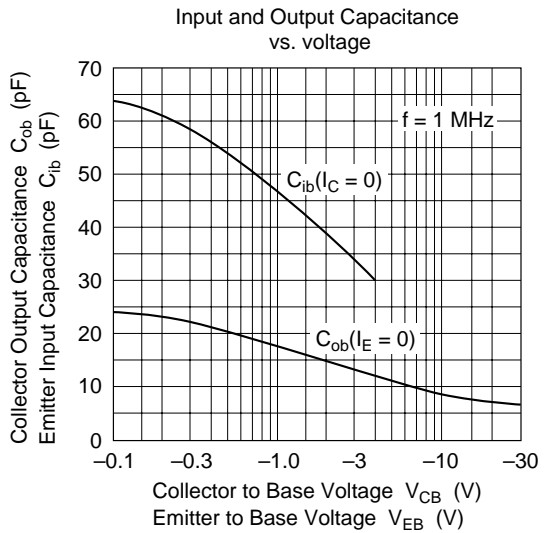
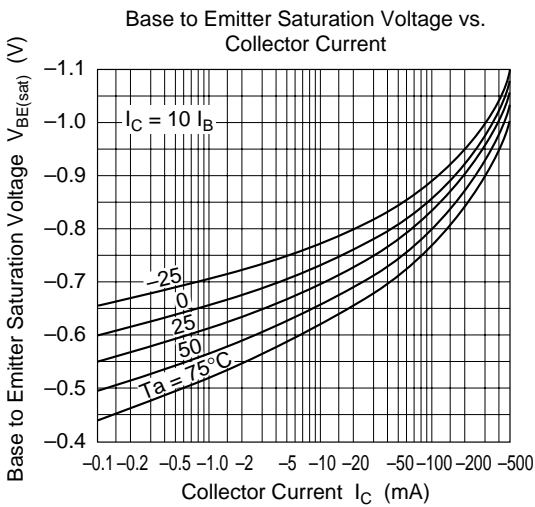
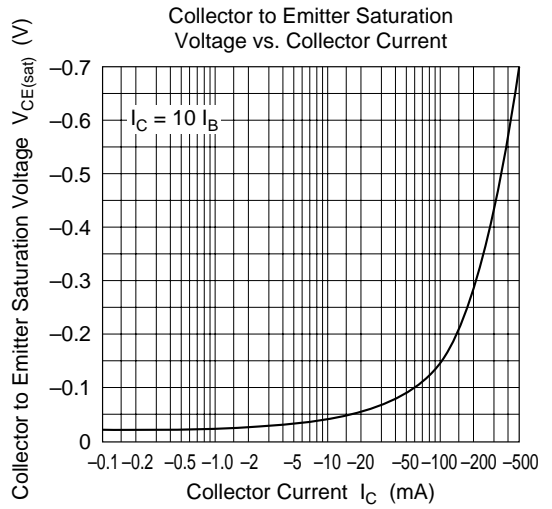
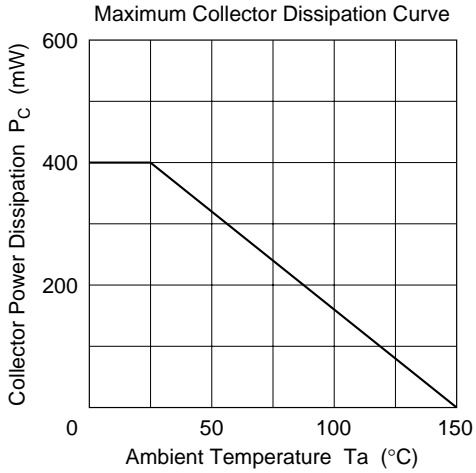


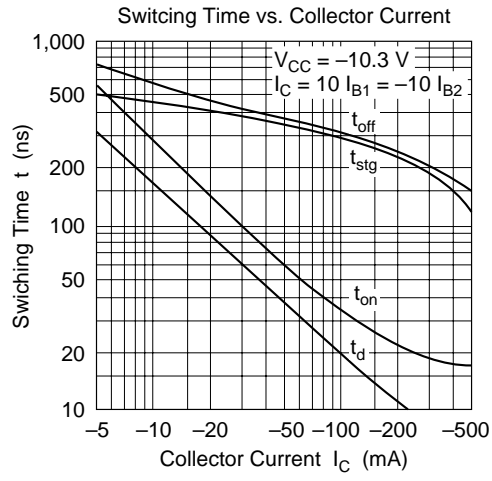
Response Waveform



Response Waveform

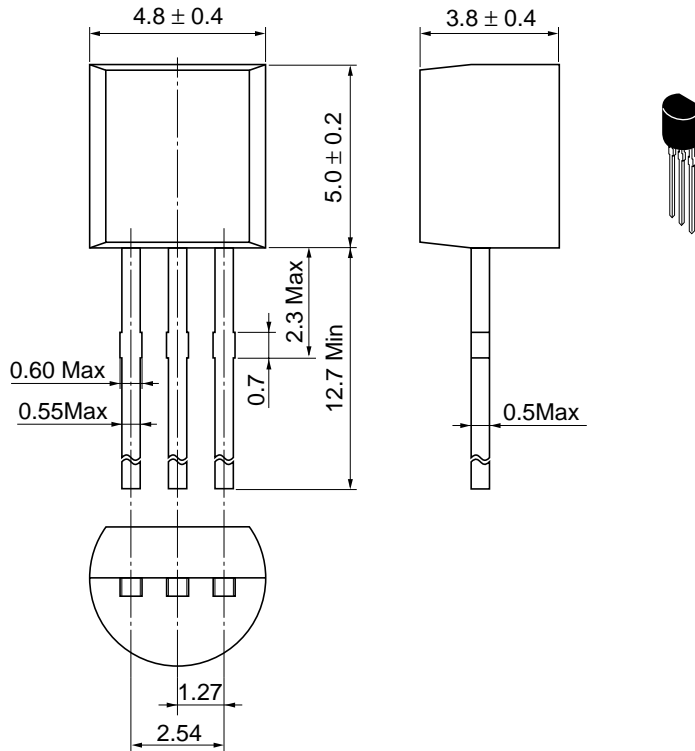






Package Dimensions

As of January, 2001
Unit: mm



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

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HITACHI

Hitachi, Ltd.

Semiconductor & Integrated Circuits.
Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan
Tel: Tokyo (03) 3270-2111 Fax: (03) 3270-5109

URL NorthAmerica : <http://semiconductor.hitachi.com/>
Europe : <http://www.hitachi-eu.com/hel/ecg>
Asia : <http://sicapac.hitachi-asia.com>
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For further information write to:

Hitachi Semiconductor
(America) Inc.
179 East Tasman Drive,
San Jose, CA 95134
Tel: <1> (408) 433-1990
Fax: <1> (408) 433-0223

Hitachi Europe GmbH
Electronic Components Group
Dornacher Straße 3
D-85622 Feldkirchen, Munich
Germany
Tel: <49> (89) 9 9180-0
Fax: <49> (89) 9 29 30 00

Hitachi Europe Ltd.
Electronic Components Group.
Whitebrook Park
Lower Cookham Road
Maidenhead
Berkshire SL6 8YA, United Kingdom
Tel: <44> (1628) 585000
Fax: <44> (1628) 585160

Hitachi Asia Ltd.
Hitachi Tower
16 Collyer Quay #20-00,
Singapore 049318
Tel : <65>-538-6533/538-8577
Fax : <65>-538-6933/538-3877
URL : <http://www.hitachi.com.sg>

Hitachi Asia Ltd.
(Taipei Branch Office)
4/F, No. 167, Tun Hwa North Road,
Hung-Kuo Building,
Taipei (105), Taiwan
Tel : <886>-(2)-2718-3666
Fax : <886>-(2)-2718-8180
Telex : 23222 HAS-TP
URL : <http://www.hitachi.com.tw>

Hitachi Asia (Hong Kong) Ltd.
Group III (Electronic Components)
7/F., North Tower,
World Finance Centre,
Harbour City, Canton Road
Tsim Sha Tsui, Kowloon,
Hong Kong
Tel : <852>-(2)-735-9218
Fax : <852>-(2)-730-0281
URL : <http://www.hitachi.com.hk>

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