2SD1922

Silicon NPN Epitaxial

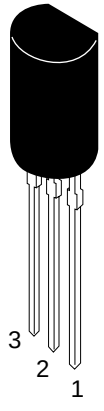
HITACHI

Application

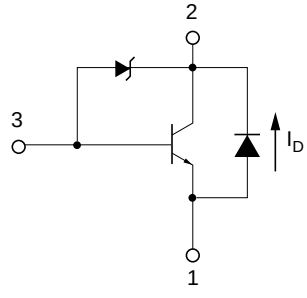
Low frequency power amplifier

Outline

TO-92MOD



1. Emitter
2. Collector
3. Base



Hitachi semiconductor

Absolute Maximum Ratings (Ta = 25°C)

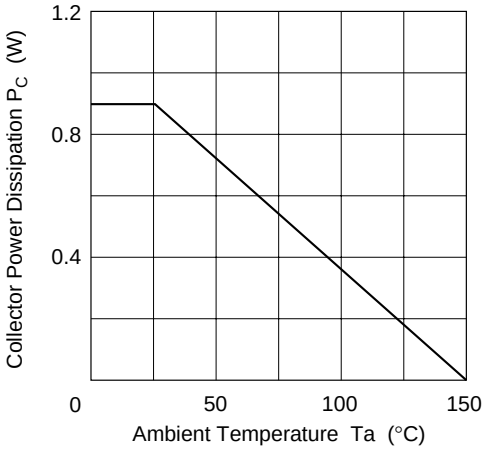
Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	25	V
Collector to emitter voltage	V_{CEO}	25	V
Emitter to base voltage	V_{EBO}	6	V
Collector current	I_C	0.8	A
Collector peak current	$ic_{(peak)}$	1.5	A
E to C diode forward current	I_D	0.8	A
Collector power dissipation	P_C	0.9	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

Electrical Characteristics (Ta = 25°C)

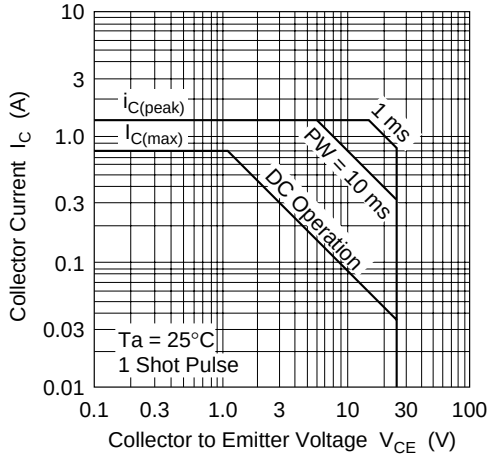
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	25	—	—	V	I_C = 10 µA, I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	25	—	35	V	I_C = 1 mA, R_{BE} = ∞
Collector to emitter sustaining voltage	$V_{CEO(sus)}$	25	—	35	V	I_C = 0.8 A, R_{BE} = ∞, L = 20 mH
Emitter to base breakdown voltage	$V_{(BR)EBO}$	6	—	—	V	I_E = 10 µA, I_C = 0
Collector cutoff current	I_{CBO}	—	—	0.2	µA	V_{CB} = 20 V, I_E = 0
	I_{CEO}	—	—	0.5	µA	V_{CE} = 20 V, R_{BE} = ∞
Emitter cutoff current	I_{EBO}	—	—	0.2	µA	V_{EB} = 5 V, I_C = 0
DC current transfer ratio	h_{FE}	250	—	1200		V_{CE} = 2 V, I_C = 0.1 A*[1]
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	0.3	V	I_C = 0.8 A, I_B = 80 mA*[1]
E to C diode forward voltage	V_D	—	—	1.1	V	I_D = 0.8 A*[1]

Note: 1. Pulse test

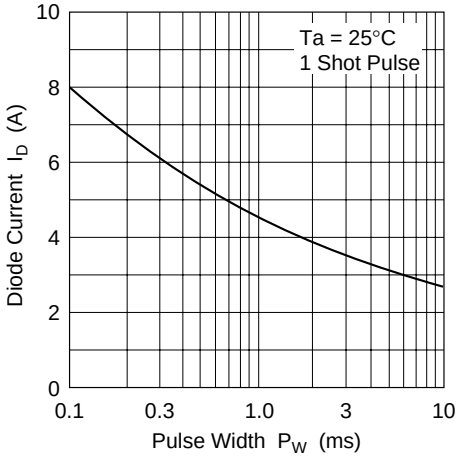
Maximum Collector Dissipation Curve



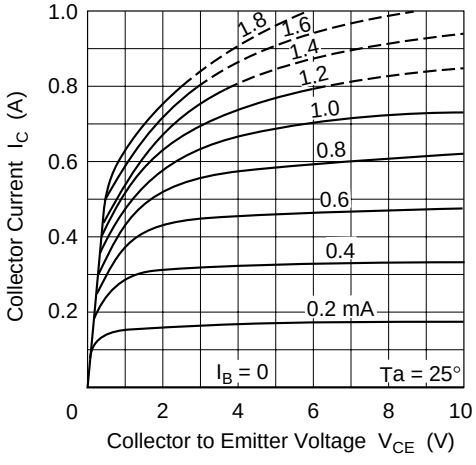
Area of Safe Operation



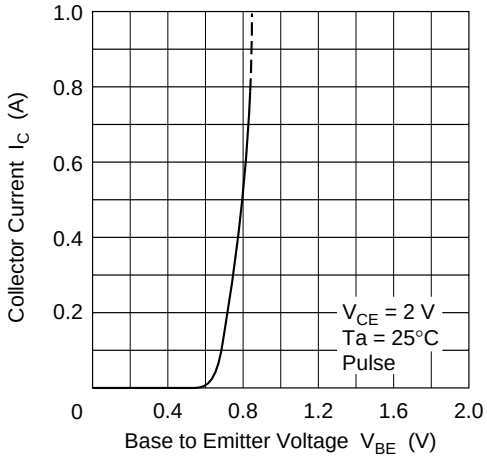
Area of Safe Operation of Emitter to Collector Diode



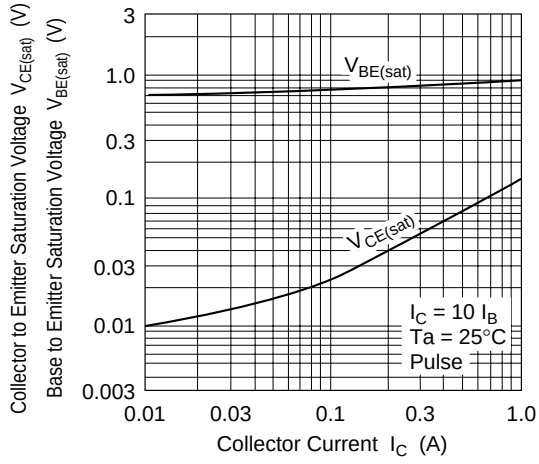
Typical Output Characteristics



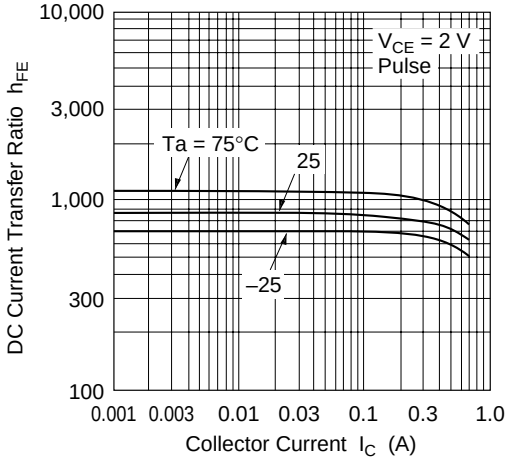
Typical Transfer Characteristics



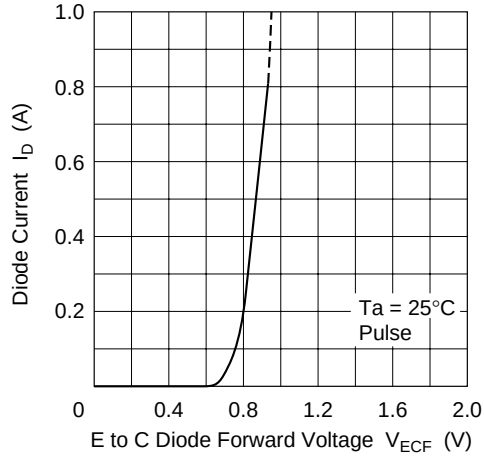
Saturation Voltage vs.Collector Current

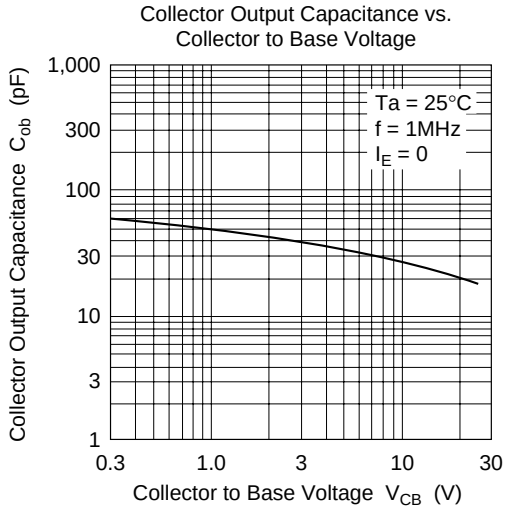


DC Current Transfer Ratio vs. Collector Current

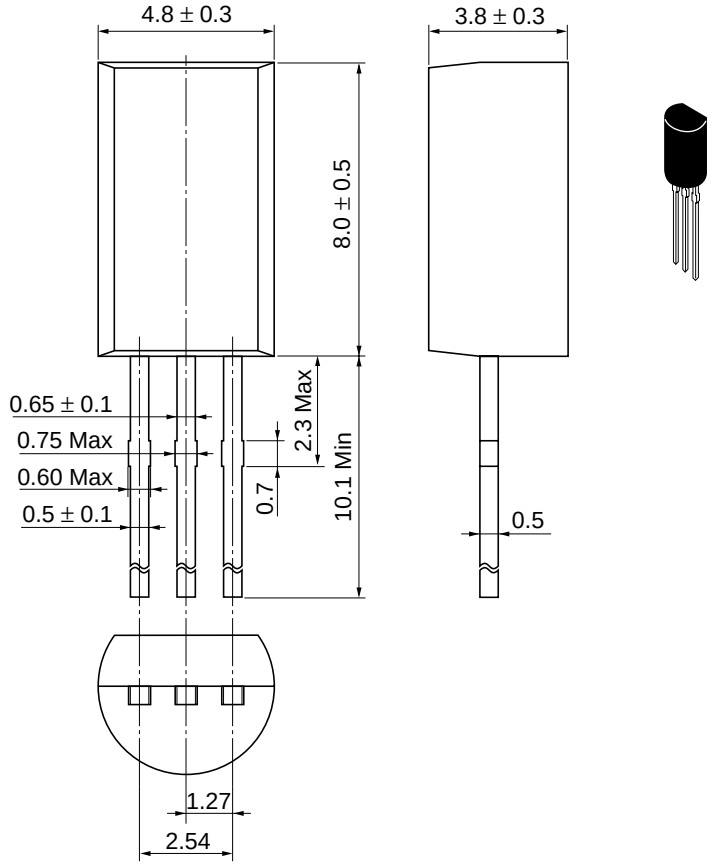


Typical Characteristics of Emitter to Collector Diode




Collector Output Capacitance vs.
Collector to Base Voltage
Collector Output Capacitance C_{ob} (pF)
1,000
300
100
30
10
3
1
0.3
1.0
3
10
30
Collector to Base Voltage V_{CB} (V)
Ta = 25°C
f = 1MHz
I_E = 0

Unit: mm



Hitachi Code	TO-92 Mod
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.35 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

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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) 778322

Hitachi Asia Pte. Ltd.
16 Collyer Quay #20-00
Hitachi Tower
Singapore 049318
Tel: 535-2100
Fax: 535-1533

Hitachi Asia Ltd.
Taipei Branch Office
3F, Hung Kuo Building. No.167,
Tun-Hwa North Road, Taipei (105)
Tel: <886> (2) 2718-3666
Fax: <886> (2) 2718-8180

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
Telex: 40815 HITEC HX

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