2SC5273

Silicon NPN Triple Diffused

HITACHI

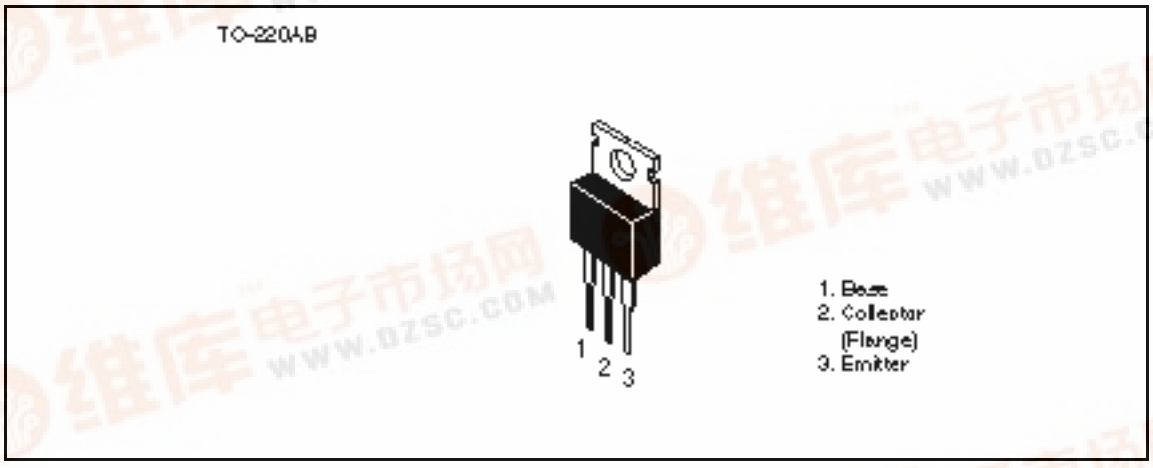
Application

High voltage amplifier

Features

- High brakedown voltage
  $V_{(BR)CEO}$ = 1300 V min

Outline



2SC5273

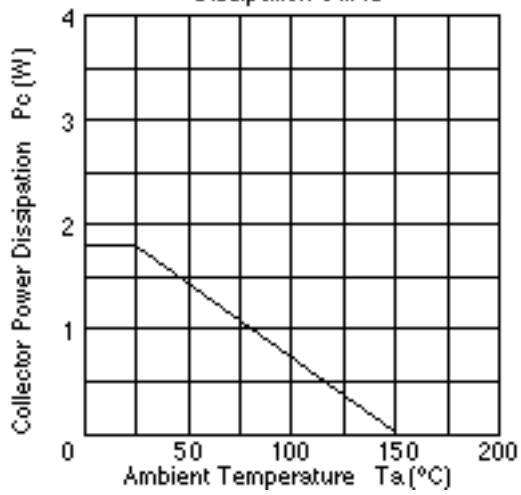
Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	1300	V
Collector to emitter voltage	V_{CEO}	1300	V
Emitter to base voltage	V_{EBO}	6	V
Collector current	I_C	30	mA
Collector peak current	$I_{C(peak)}$	60	mA
Collector power dissipation	P_C	1.8	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

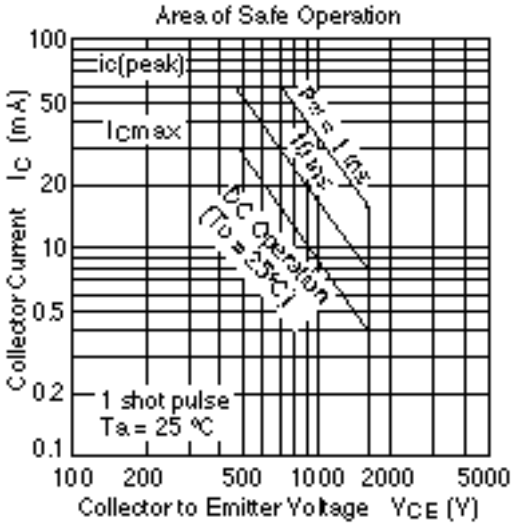
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector cutoff current	I_{CES}	—	—	10	µA	V_{CE} = 1300 V, R_{BE} = 0
Collector cutoff current	I_{CEO}	—	—	100	µA	V_{CE} = 1300 V, R_{BE} = ∞
Emitter cutoff current	I_{EBO}	—	—	10	µA	V_{EB} = 6 V, I_C = 0
DC current transfer ratio	h_{FE}	10	—	—		V_{CE} = 10 V, I_C = 10 mA
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	5.0	V	I_C = 10 mA, I_B = 2 mA
Gain bandwidth product	f_T	—	5.5	—	MHz	V_{CE} = 20 V, I_C = 1 mA
Collector output capacitance	Cob	—	3.4	—	pF	V_{CB} = 100 V, I_E = 0, f = 1 MHz

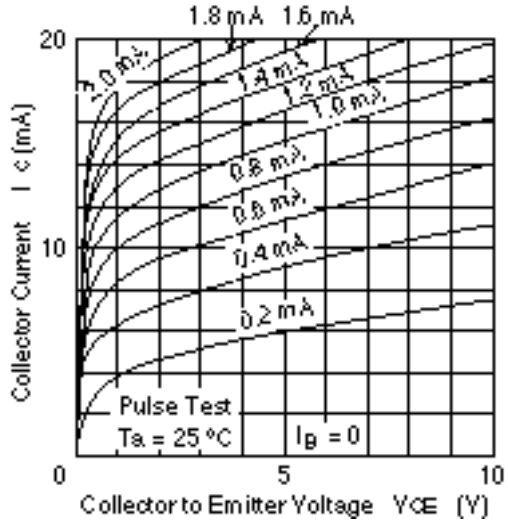
Maximum Collector Power Dissipation Curve



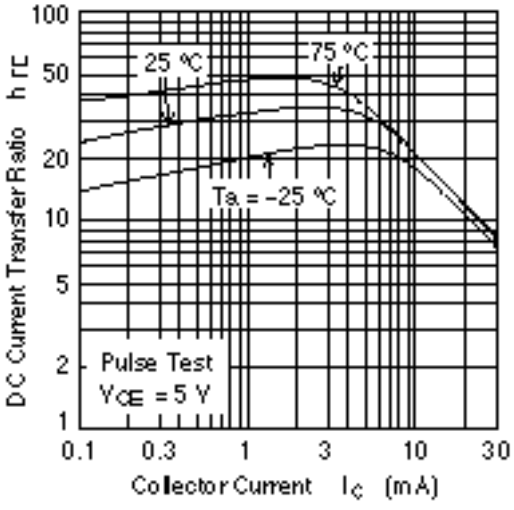
Area of Safe Operation

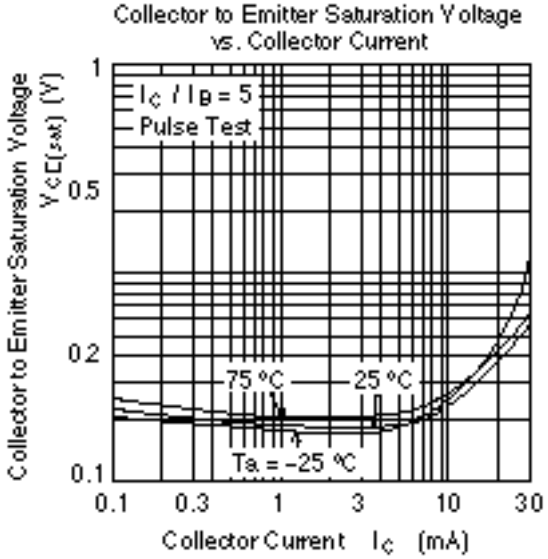


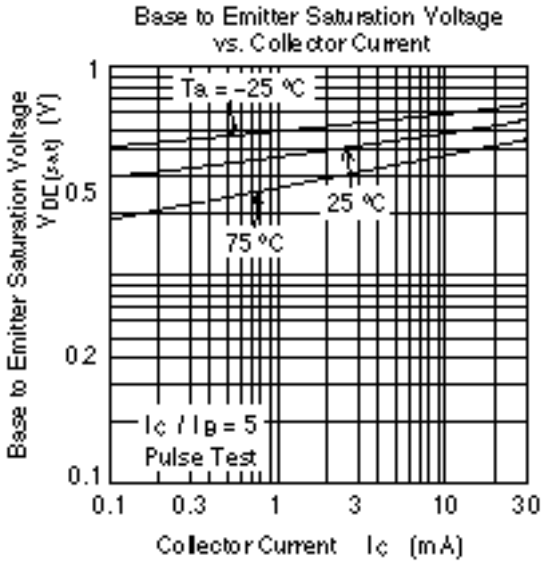
Typical Output Characteristics

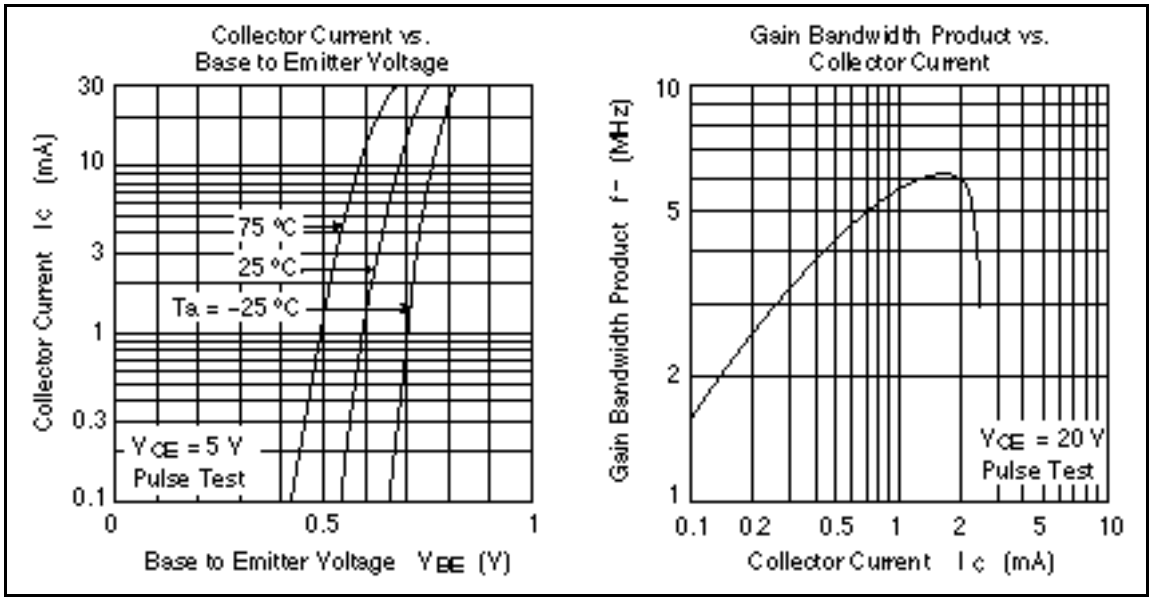


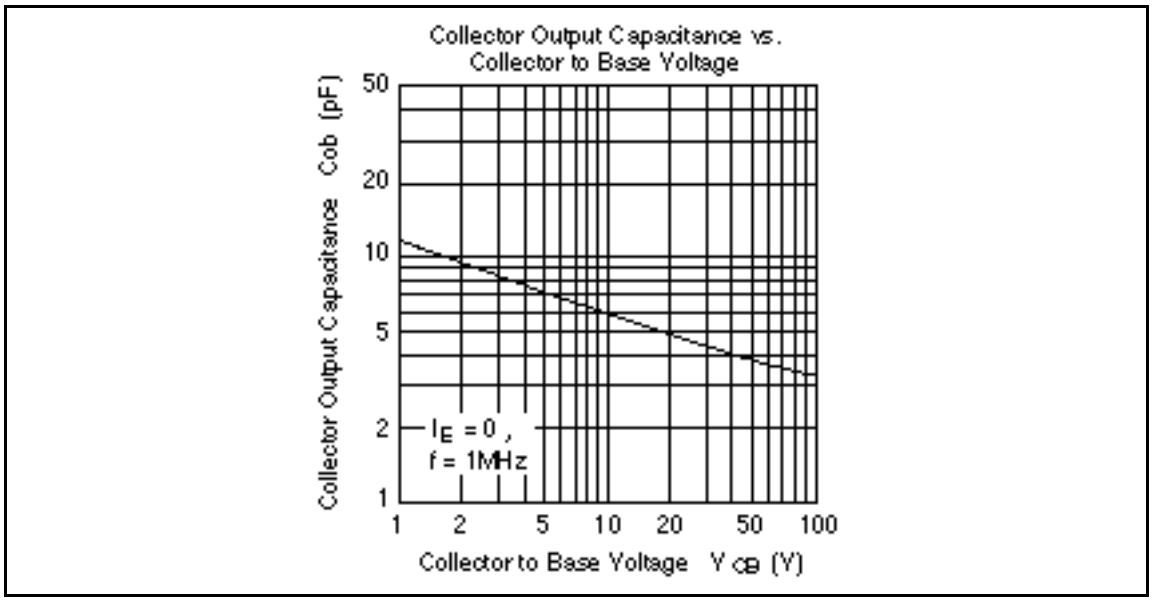
DC Current Transfer Ratio vs. Collector Current




Collector to Emitter Saturation Voltage
vs. Collector Current
Collector to Emitter Saturation Voltage
VCE(sat) (V)
IC / IB = 5
Pulse Test
75 °C
25 °C
Ta = –25 °C
1
0.5
0.2
0.1
0.1
0.3
1
3
10
30
Collector Current IC (mA)


Base to Emitter Saturation Voltage
vs. Collector Current
Base to Emitter Saturation Voltage
VBE(sat) (V)
Ta = –25 °C
25 °C
75 °C
IC / IB = 5
Pulse Test
1
0.5
0.2
0.1
0.1
0.3
1
3
10
30
Collector Current IC (mA)


Collector Current vs.
Base to Emitter Voltage
Collector Current Ic (mA)
30
10
3
1
0.3
0.1
0
0.5
1
75 °C
25 °C
Ta = –25 °C
VCE = 5 V
Pulse Test
Base to Emitter Voltage VBE (V)
Gain Bandwidth Product vs.
Collector Current
Gain Bandwidth Product fT (MHz)
10
5
2
1
0.1
0.2
0.5
1
2
5
10
VCE = 20 V
Pulse Test
Collector Current Ic (mA)


Collector Output Capacitance vs.
Collector to Base Voltage
Collector Output Capacitance Cob (pF)
50
20
10
5
2
1
I_E = 0 ,
f = 1MHz
1
2
5
10
20
50
100
Collector to Base Voltage V_{CB} (V)

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