HITACHI

2SC5057

Silicon NPN Triple Diffused Planar

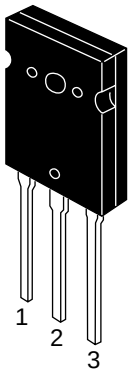
Application

HDTV horizontal deflection output

Features

- High breakdown voltage
  V_{CBO} = 1700 V

TO–3PL



1. Base
2. Collector
3. Emitter

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	1700	V
Collector to emitter voltage	V_{CEO}	900	V
Emitter to base voltage	V_{EBO}	6	V
Collector current	I_C	20	A
Collector surge current	ic(surge)	25	A
Collector power dissipation	P_C*1	200	W
Junction temperature	T_j	150	°C
Storage temperature	Tstg	–55 to +150	°C

Note: 1. Value at Tc = 25°C

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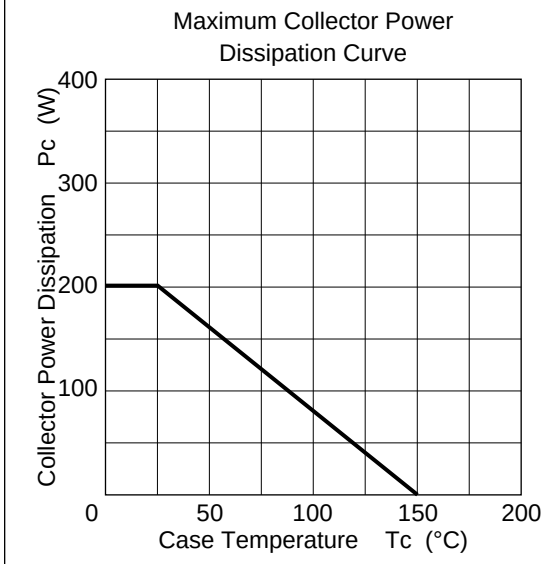
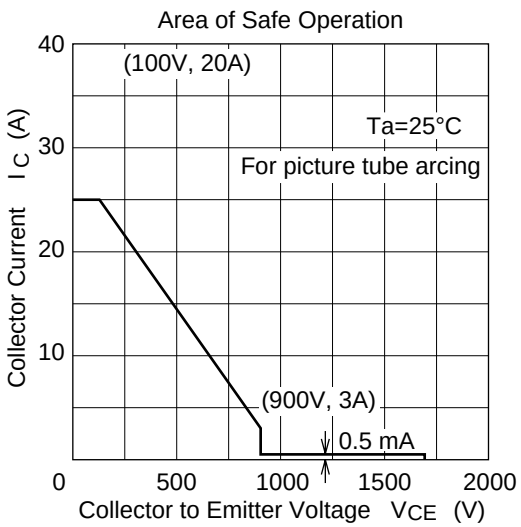
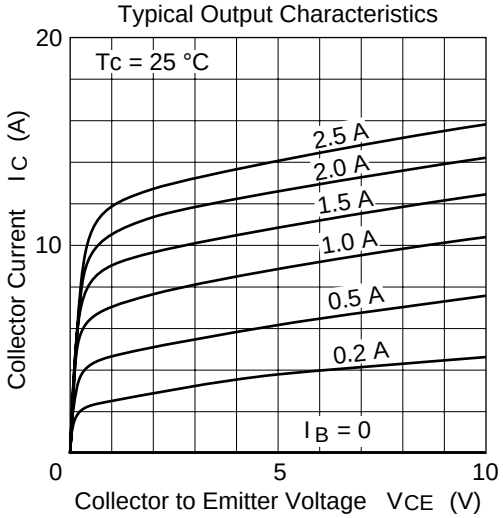
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	900	—	—	V	I_C = 10 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$	6	—	—	V	I_E = 10 mA, I_C = 0
Collector to emitter cutoff current	I_{CES}	—	—	500	µA	V_{CE} = 1700 V, R_{BE} = 0
DC current transfer ratio	h_{FE}	—	—	38		V_{CE} = 5 V, I_C = 1 A
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	5	V	I_C = 14 A, I_B = 3.5 A
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	1.5	V	I_C = 14 A, I_B = 3.5 A
Fall time	t_f	—	—	0.5	µsec	I_{CP} =10 A, I_{B1} = 2 A I_{B2} ≈ – 3 A, f_H=31.5kHz

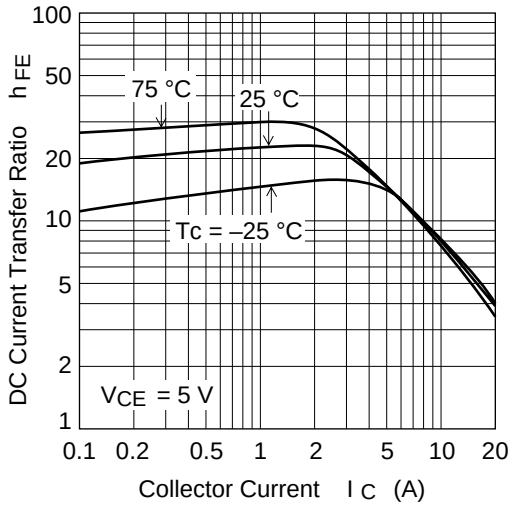




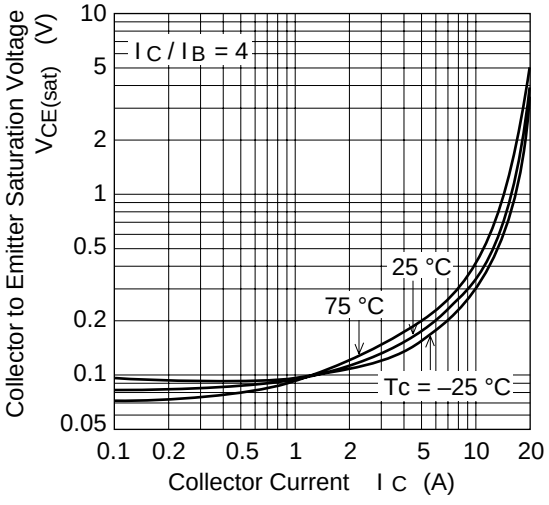
Typical Output Characteristics



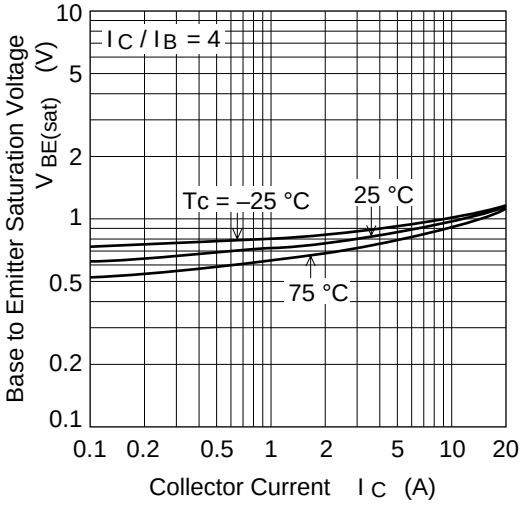
DC Current Transfer Ratio vs. Collector Current



Collector to Emitter Saturation Voltage vs. Collector Current



Base to Emitter Saturation Voltage vs. Collector Current



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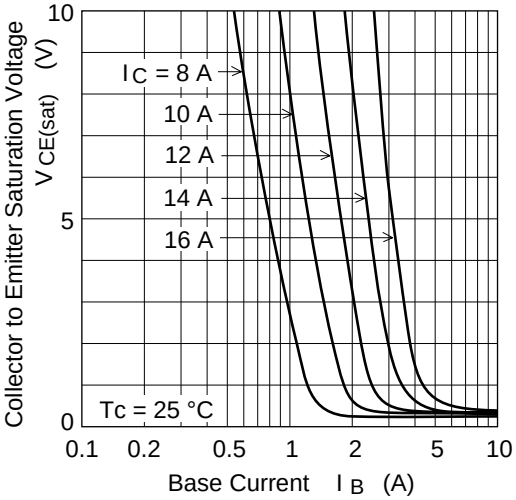
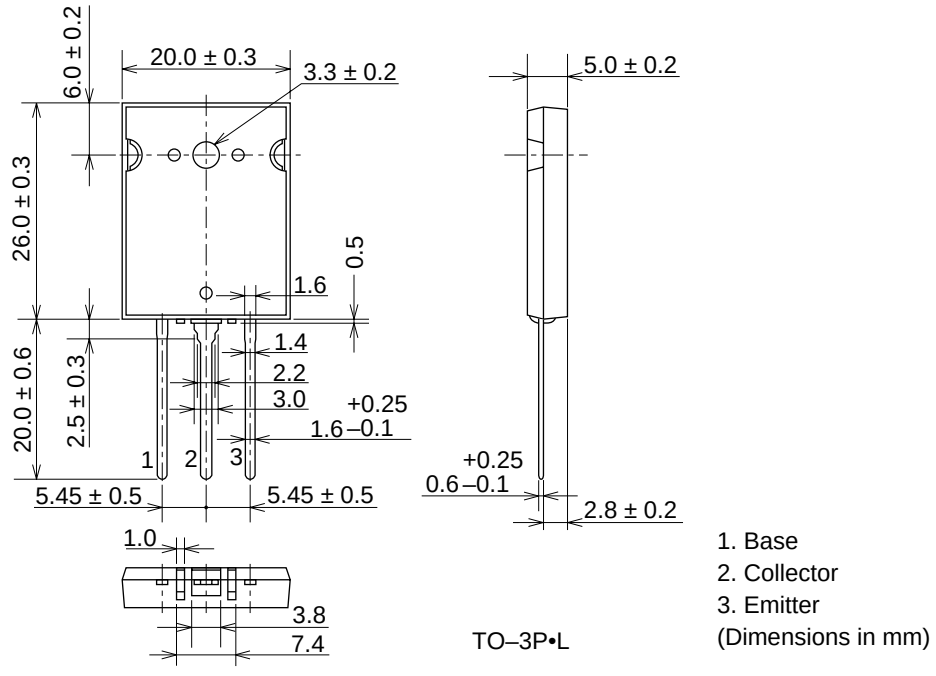
Collector to Emitter Saturation Voltage
vs. Base Current



Package Outline



TO–3P•L

1. Base
2. Collector
3. Emitter

(Dimensions in mm)