
2SC4963

Silicon NPN Triple Diffused

HITACHI

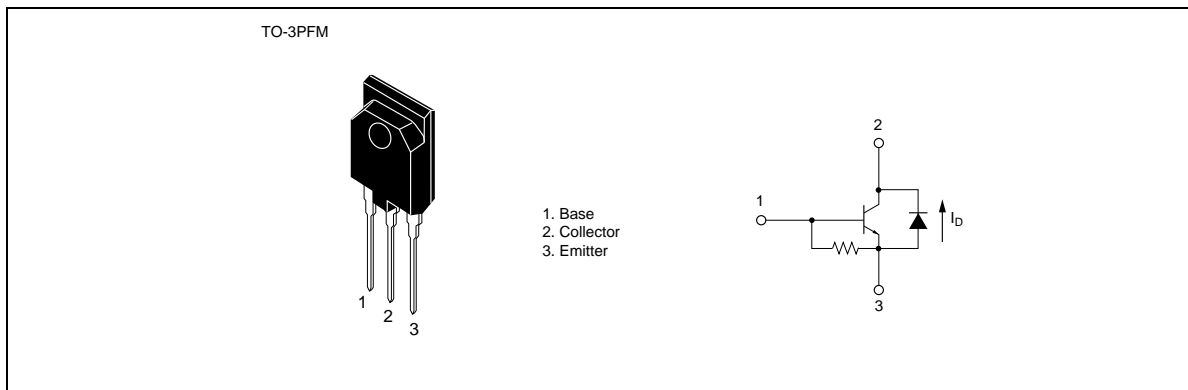
Application

TV/character display horizontal deflection output

Features

- High breakdown voltage $V_{CES} = 1700 \text{ V}$
- Built-in damper diode type
- Isolated package TO-3PFM

Outline



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Absolute Maximum Ratings (Ta = 25°C)

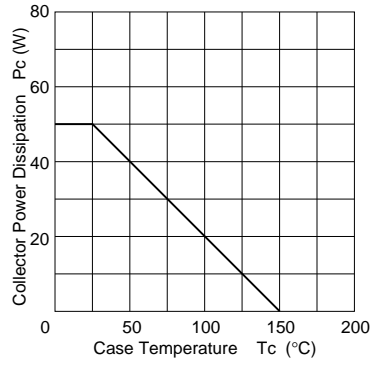
Item	Symbol	Ratings	Unit
Collector to emitter voltage	V_{CES}	1700	V
Emitter to base voltage	V_{EBO}	6	V
Collector current	I_C	8	A
Collector surge current	$I_{C(surge)}$	20	A
Collector power dissipation	P_C^{*1}	50	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C
C to E diode forward current	I_D	8	A

Note: 1. Value at $T_C = 25^\circ\text{C}$.

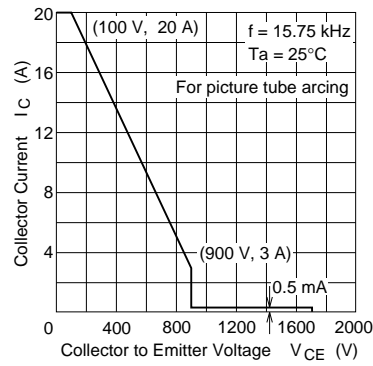
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Emitter to base breakdown voltage	$V_{(BR)EBO}$	6	—	—	V	$I_E = 500\text{ mA}, I_C = 0$
Collector cutoff current	I_{CES}	—	—	500	μA	$V_{CE} = 1700\text{ V}, R_{BE} = 0$
DC current transfer ratio	h_{FE}	—	—	25		$V_{CE} = 5\text{ V}, I_C = 1\text{ A}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	5	V	$I_C = 7\text{ A}, I_B = 1.4\text{ A}$
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	1.5	V	$I_C = 7\text{ A}, I_B = 1.4\text{ A}$
C to E diode forward voltage	V_{ECF}	—	—	2.0	V	$I_F = 8\text{ A}$
Fall time	t_f	—	—	0.6	μs	$I_{CP} = 7\text{ A}, I_{B1} = 1.4\text{ A},$ $I_{B2} \cong -2.5\text{ A}, f_H = 15.75\text{ kHz}$

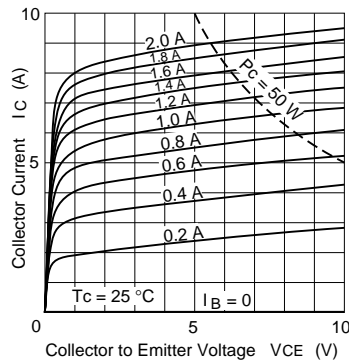
Maximum Collector Power Dissipation Curve



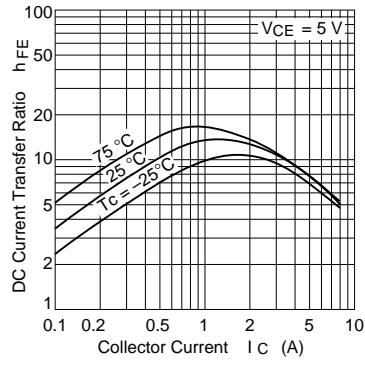
Area of Safe Operation



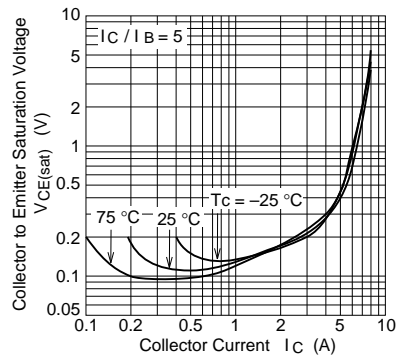
Typical Output Characteristics

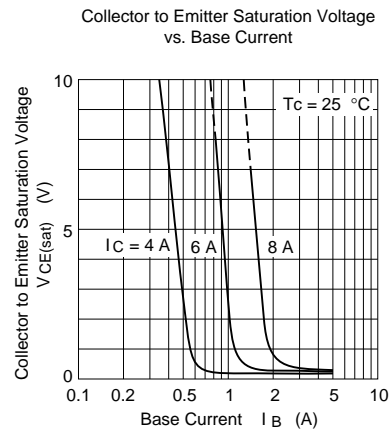
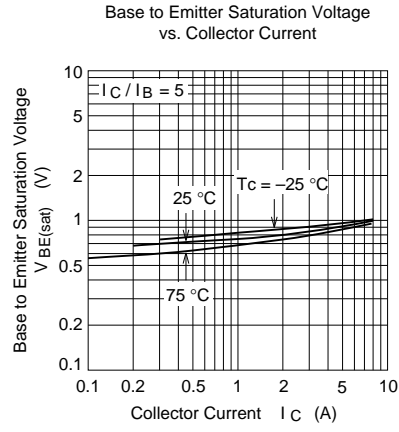


DC Current Transfer Ratio
vs. Collector Current



Collector to Emitter Saturation Voltage
vs. Collector Current





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