
2SC4499(L)/(S)

Silicon NPN Triple Diffused

HITACHI

Application

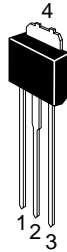
High speed and high voltage switching

Outline

DPAK



S Type



L Type

- 1. Base
- 2. Collector
- 3. Emitter
- 4. Collector

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

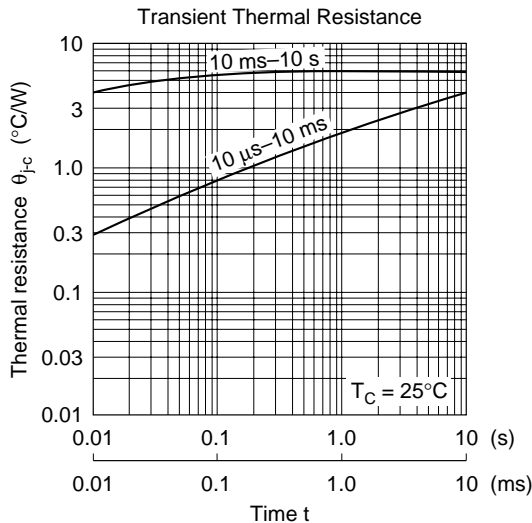
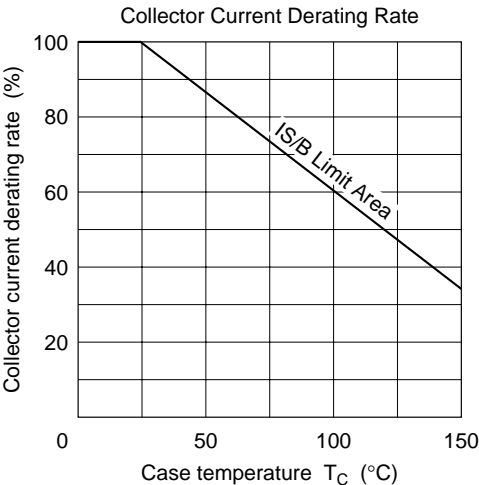
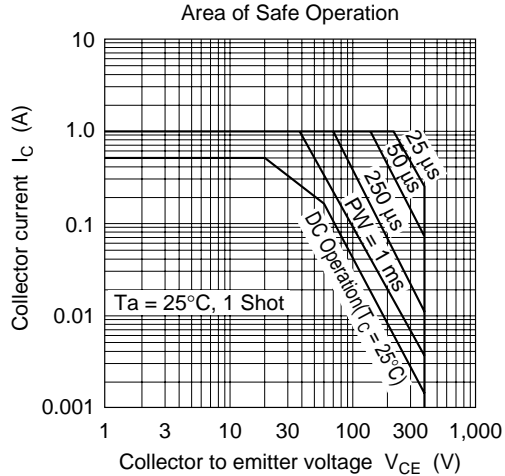
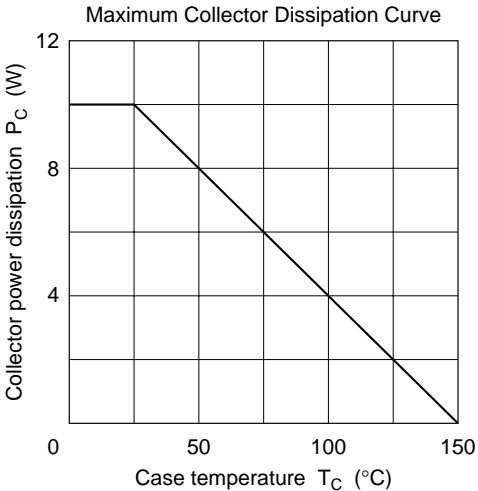
Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	500	V
Collector to emitter voltage	V_{CEO}	400	V
Emitter to base voltage	V_{EBO}	10	V
Collector current	I_{C}	0.5	A
Collector peak current	$I_{\text{C(peak)}}$	1.0	A
Collector power dissipation	P_{C}	0.75	W
	P_{C}^{*1}	10	
Junction temperature	T_{j}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

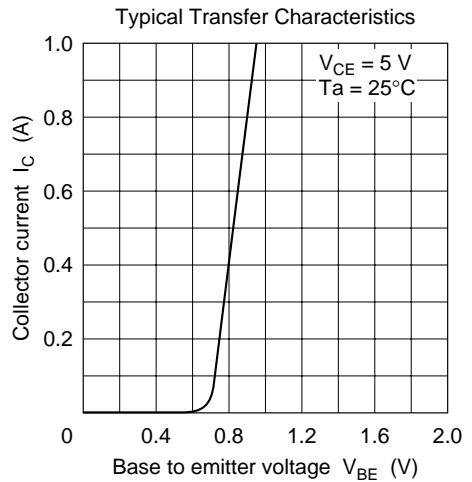
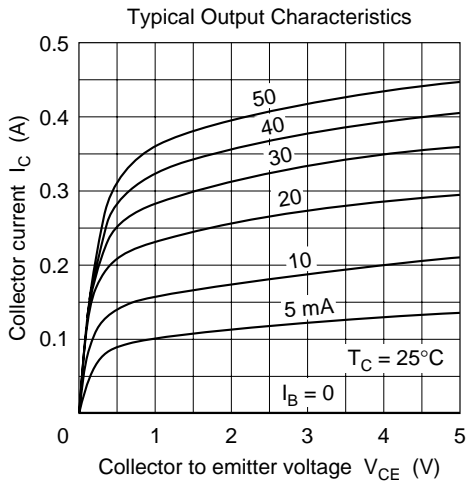
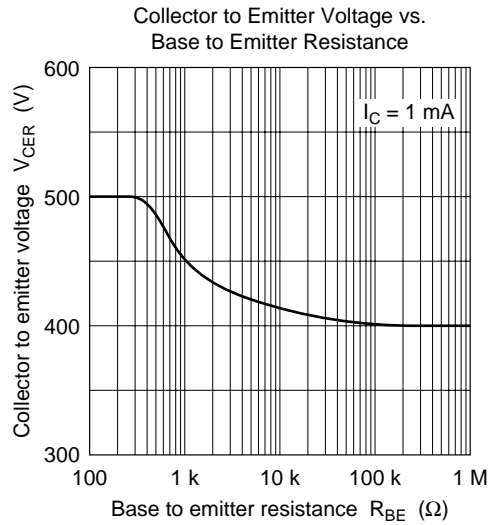
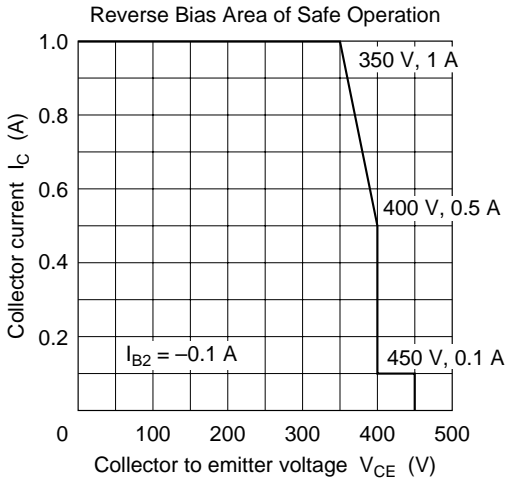
Note: 1. Value at $T_{\text{C}} = 25^\circ\text{C}$.

Electrical Characteristics ($T_a = 25^\circ\text{C}$)

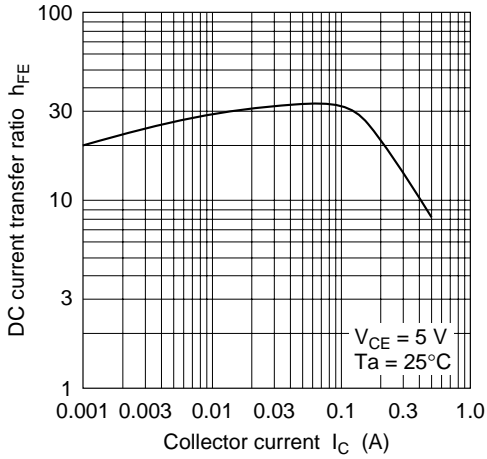
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter sustain voltage	$V_{\text{CEO(sus)}}$	400	—	—	V	$I_{\text{C}} = 0.1 \text{ A}$, $R_{\text{BE}} = \infty$ $L = 100 \text{ mH}$
Emitter to base breakdown voltage	$V_{\text{(BR)EBO}}$	10	—	—	V	$I_{\text{E}} = 10 \text{ mA}$, $I_{\text{C}} = 0$
Collector cutoff current	I_{CBO}	—	—	20	μA	$V_{\text{CB}} = 400 \text{ V}$, $I_{\text{E}} = 0$
	I_{CEO}	—	—	50		$V_{\text{CE}} = 350 \text{ V}$, $R_{\text{BE}} = \infty$
DC current transfer ratio	h_{FE1}	12	—	—		$V_{\text{CE}} = 5 \text{ V}$, $I_{\text{C}} = 0.25 \text{ A}^{*1}$
	h_{FE2}	5	—	—		$V_{\text{CE}} = 5 \text{ V}$, $I_{\text{C}} = 0.5 \text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{\text{CE(sat)}}$	—	—	1.0	V	$I_{\text{C}} = 0.25 \text{ A}$, $I_{\text{B}} = 0.05 \text{ A}^{*1}$
Base to emitter saturation voltage	$V_{\text{BE(sat)}}$	—	—	1.5	V	$I_{\text{C}} = 0.25 \text{ A}$, $I_{\text{B}} = 0.05 \text{ A}^{*1}$
Turn on time	t_{on}	—	—	1.0	μs	$I_{\text{C}} = 0.5 \text{ A}$, $I_{\text{B1}} = -I_{\text{B2}} = 0.1 \text{ A}$,
Storage time	t_{stg}	—	—	2.0	μs	$V_{\text{CC}} \cong 150 \text{ V}$
Fall time	t_{f}	—	—	1.0	μs	

Note: 1. Pulse test.

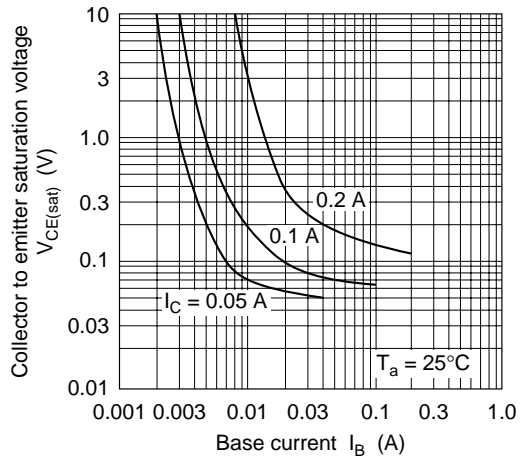




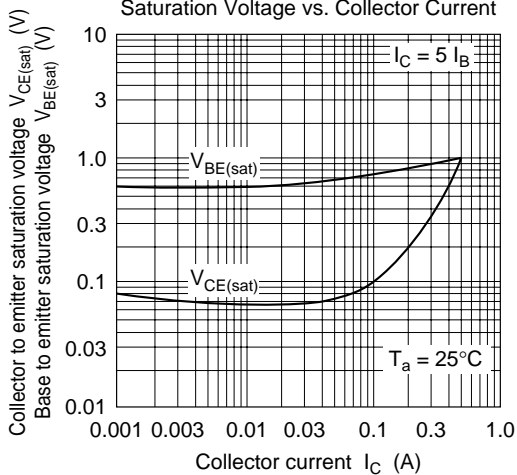
DC Current Transfer Ratio vs. Collector Current



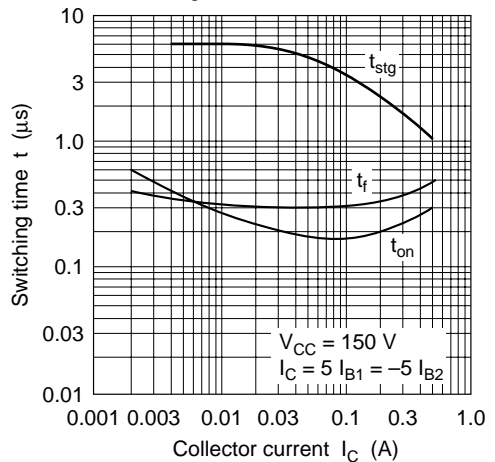
Collector to Emitter Saturation Voltage vs. Base Current

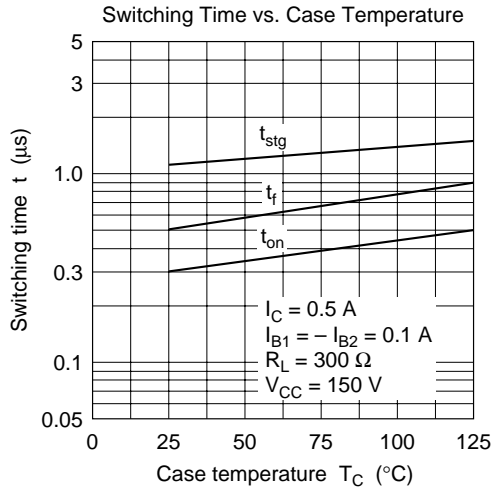


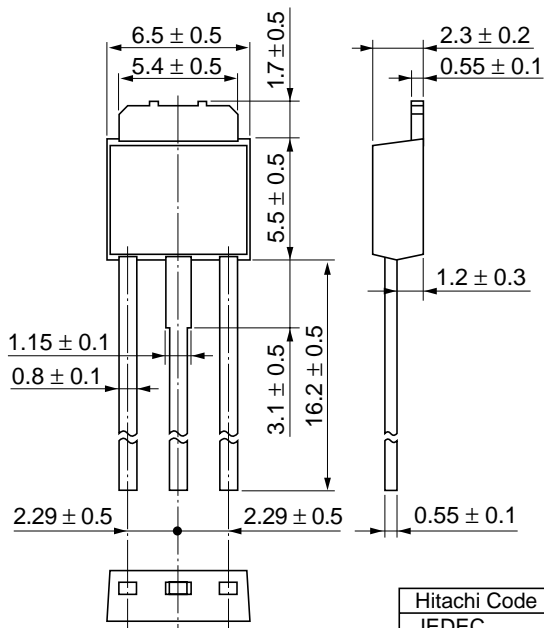
Saturation Voltage vs. Collector Current



Switching Time vs. Collector Current







Hitachi Code	DPAK (L)-(1)
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.42 g

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