

2SC4499(L)/(S)

Silicon NPN Triple Diffused

HITACHI

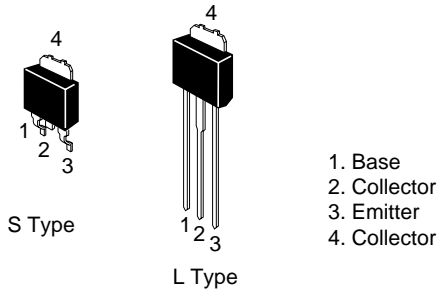
ADE-208-893 (Z)
1st. Edition
Sep. 2000

Application

High speed and high voltage switching

Outline

DPAK



Absolute Maximum Ratings (Ta = 25°C)

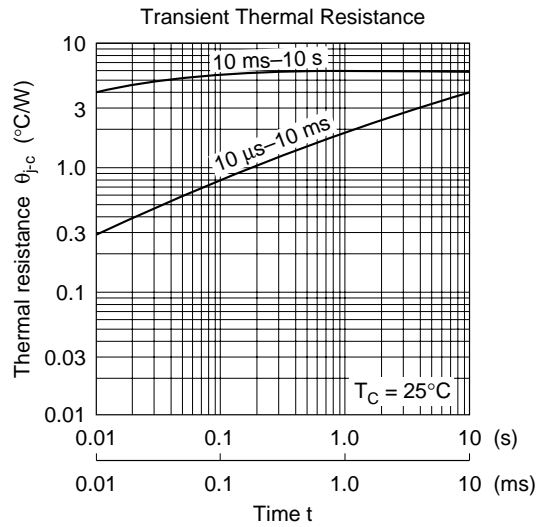
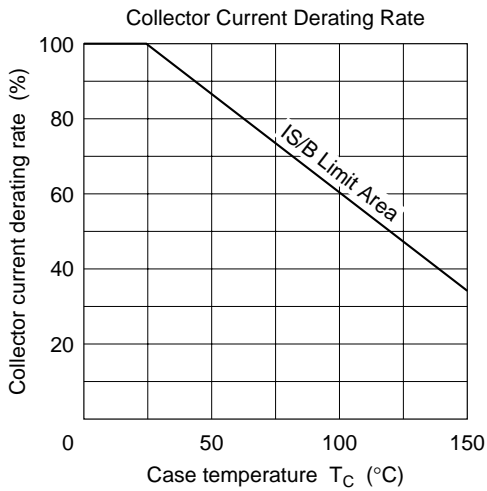
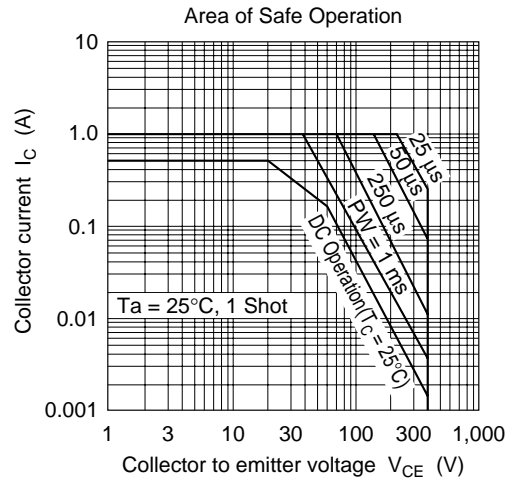
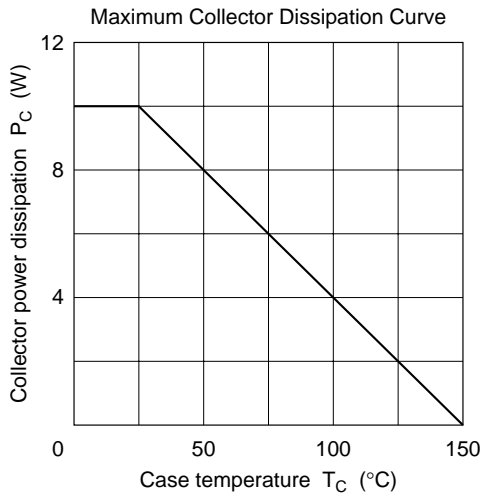
Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	500	V
Collector to emitter voltage	V_{CEO}	400	V
Emitter to base voltage	V_{EBO}	10	V
Collector current	I_C	0.5	A
Collector peak current	$I_{C(peak)}$	1.0	A
Collector power dissipation	P_C	0.75	W
	P_C^{*1}	10	
Junction temperature	T_j	150	°C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

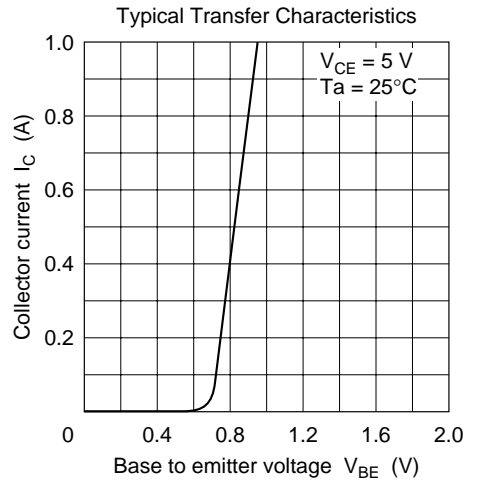
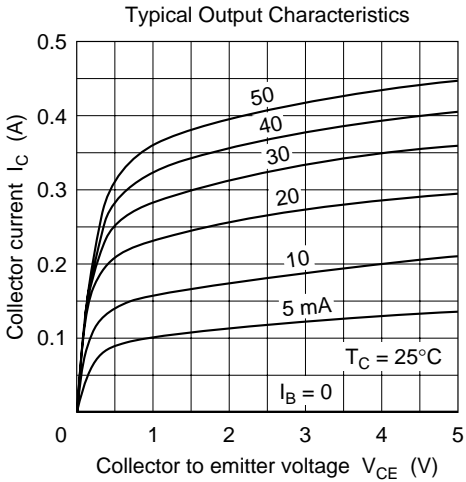
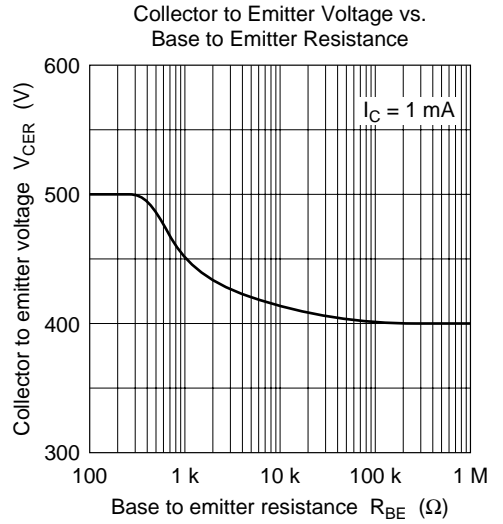
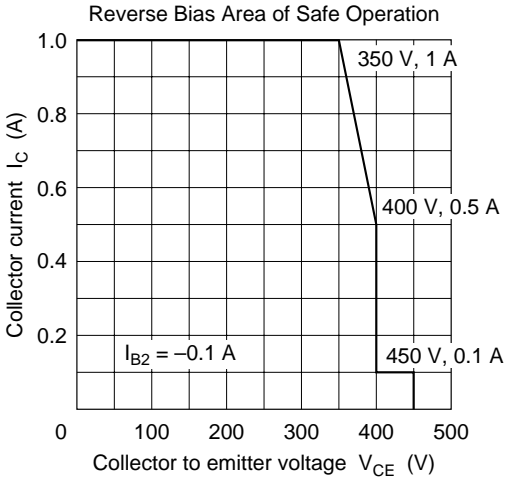
Note: 1. Value at $T_C = 25^\circ\text{C}$.

Electrical Characteristics (Ta = 25°C)

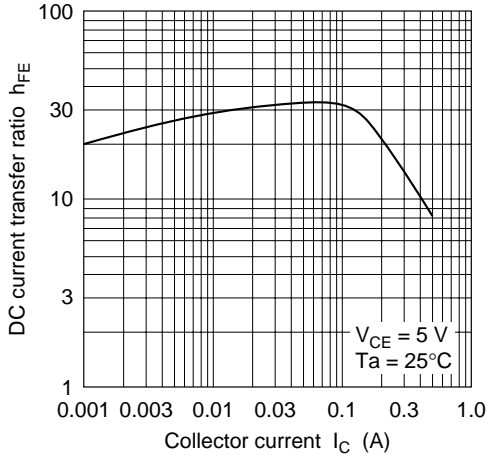
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter sustain voltage	$V_{CEO(sus)}$	400	—	—	V	$I_C = 0.1\text{ A}$, $R_{BE} = \infty$ $L = 100\text{ mH}$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	10	—	—	V	$I_E = 10\text{ mA}$, $I_C = 0$
Collector cutoff current	I_{CBO}	—	—	20	μA	$V_{CB}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

Note: 1. Pulse test.

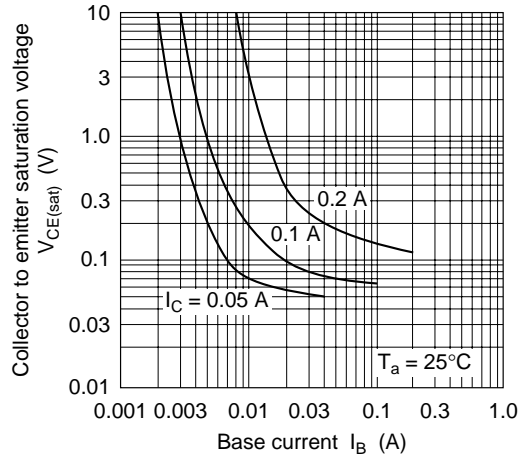




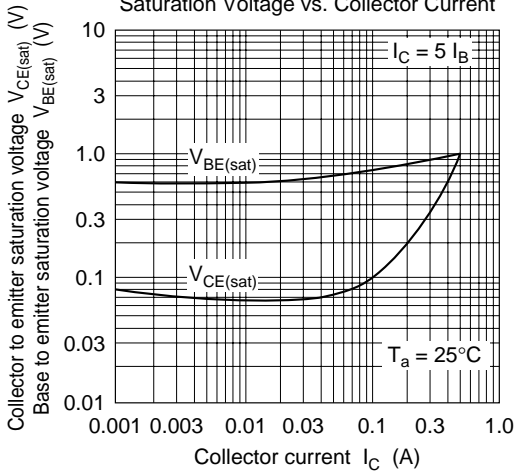
DC Current Transfer Ratio vs. Collector Current



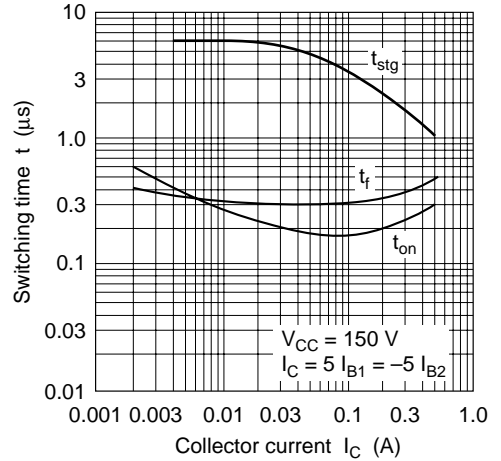
Collector to Emitter Saturation Voltage vs. Base Current

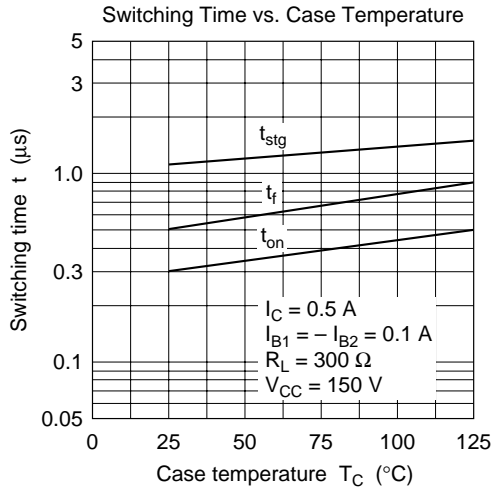


Saturation Voltage vs. Collector Current



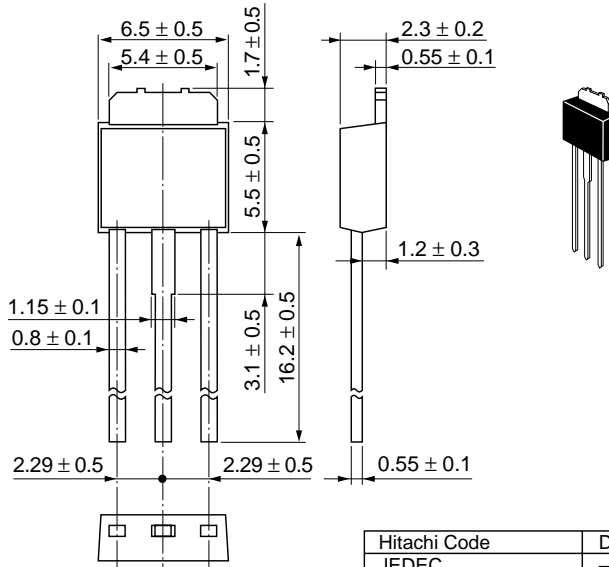
Switching Time vs. Collector Current





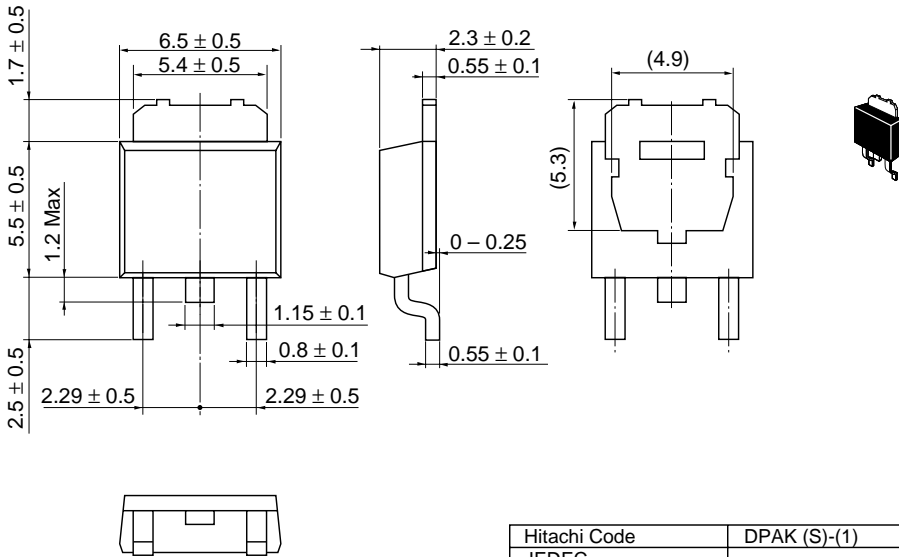
Package Dimensions

Unit: mm



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

Unit: mm



Hitachi Code	DPAK (S)-(1)
JEDEC	—
EIAJ	Conforms
Mass (reference value)	0.28 g

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