

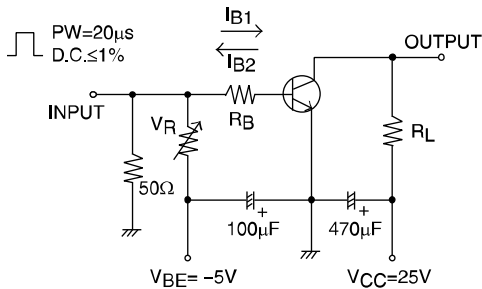
# 2SC5994

## ELECTRICAL CHARACTERISTICS at Ta = 25°C (Note 3)

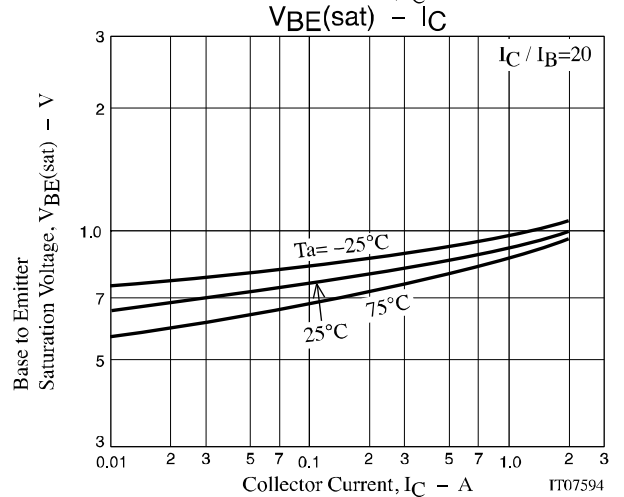
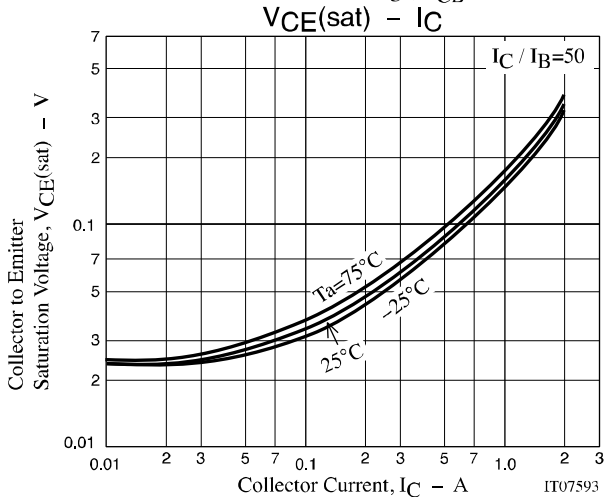
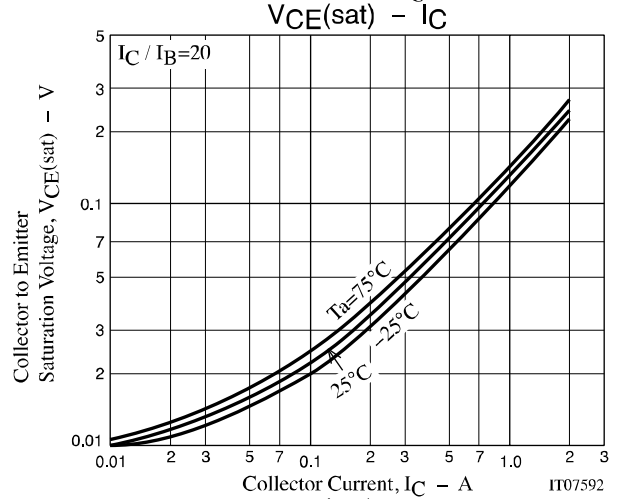
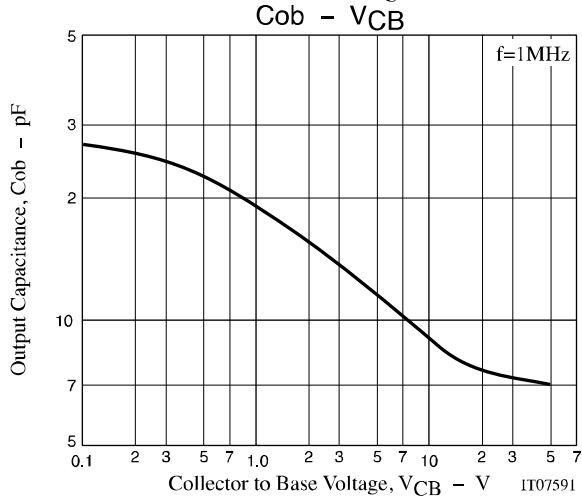
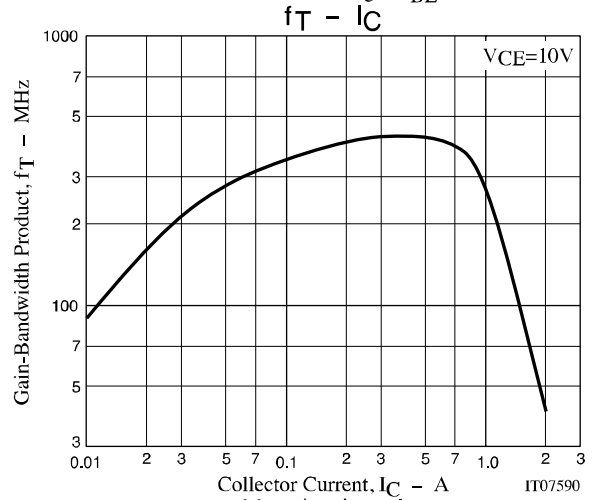
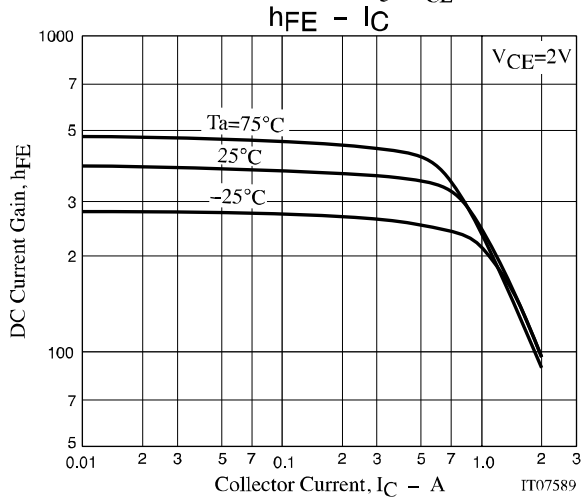
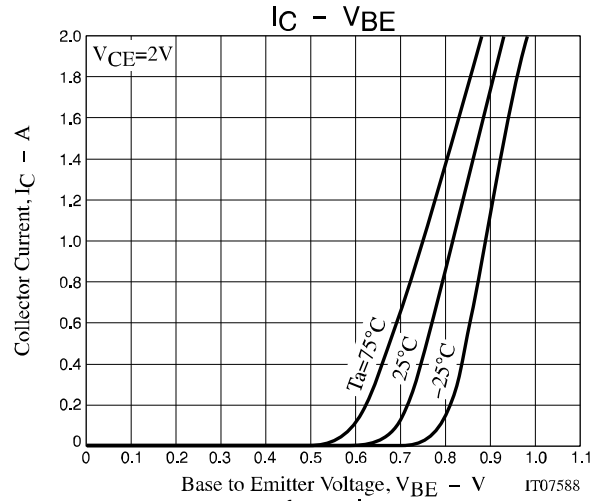
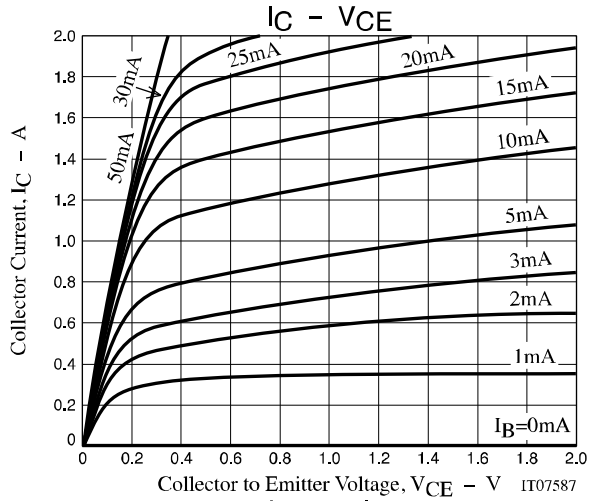
Parameter	Symbol	Conditions	Value			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V <sub>CB</sub> =50V, I <sub>E</sub> =0A			1	μA
Emitter Cutoff Current	IEBO	V <sub>EB</sub> =4V, I <sub>C</sub> =0A			1	μA
DC Current Gain	hFE1	V <sub>CE</sub> =2V, I <sub>C</sub> =100mA	200		560	
	hFE2	V <sub>CE</sub> =2V, I <sub>C</sub> =1.5A	40			
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =300mA		420		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V, f=1MHz		9		pF
Collector to Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =1A, I <sub>B</sub> =50mA		135	300	mV
Base to Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =1A, I <sub>B</sub> =50mA		0.9	1.2	V
Collector to Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =10μA, I <sub>E</sub> =0A	100			V
Collector to Emitter Breakdown Voltage	V <sub>(BR)CES</sub>	I <sub>C</sub> =100μA, R <sub>BE</sub> =0Ω	100			V
	V <sub>(BR)CEO</sub>	I <sub>C</sub> =1mA, R <sub>BE</sub> =∞	50			V
Emitter to Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =10μA, I <sub>C</sub> =0A	6			V
Turn-On Time	t <sub>on</sub>	See specified Test Circuit		30		ns
Storage Time	t <sub>stg</sub>			330		ns
Fall Time	t <sub>f</sub>			40		ns

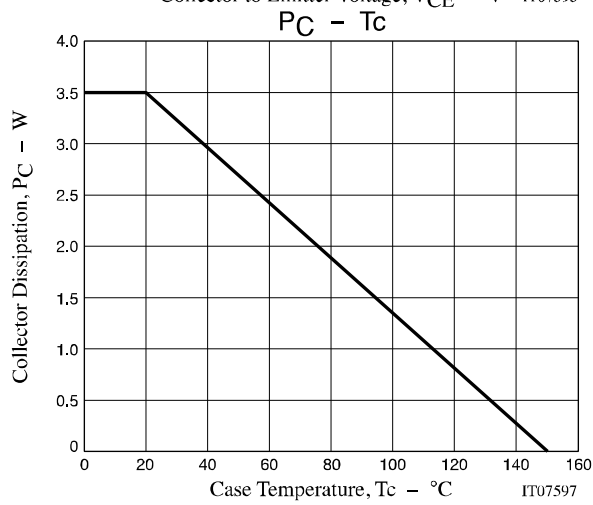
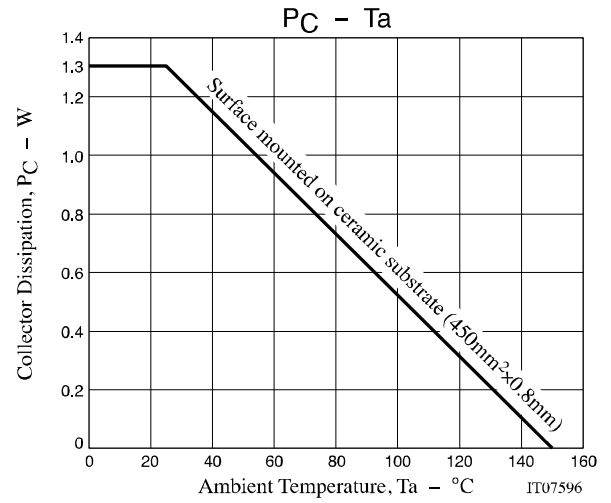
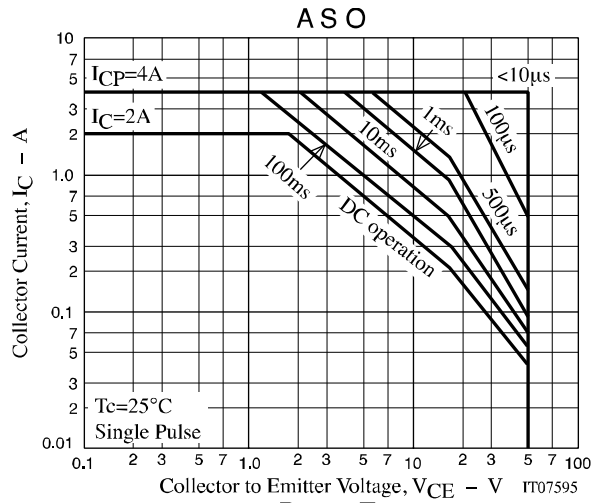
Note 3 : Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted.  
Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

### Switching Time Test Circuit



$$I_C = 10I_{B1} = -10I_{B2} = 700\text{mA}$$





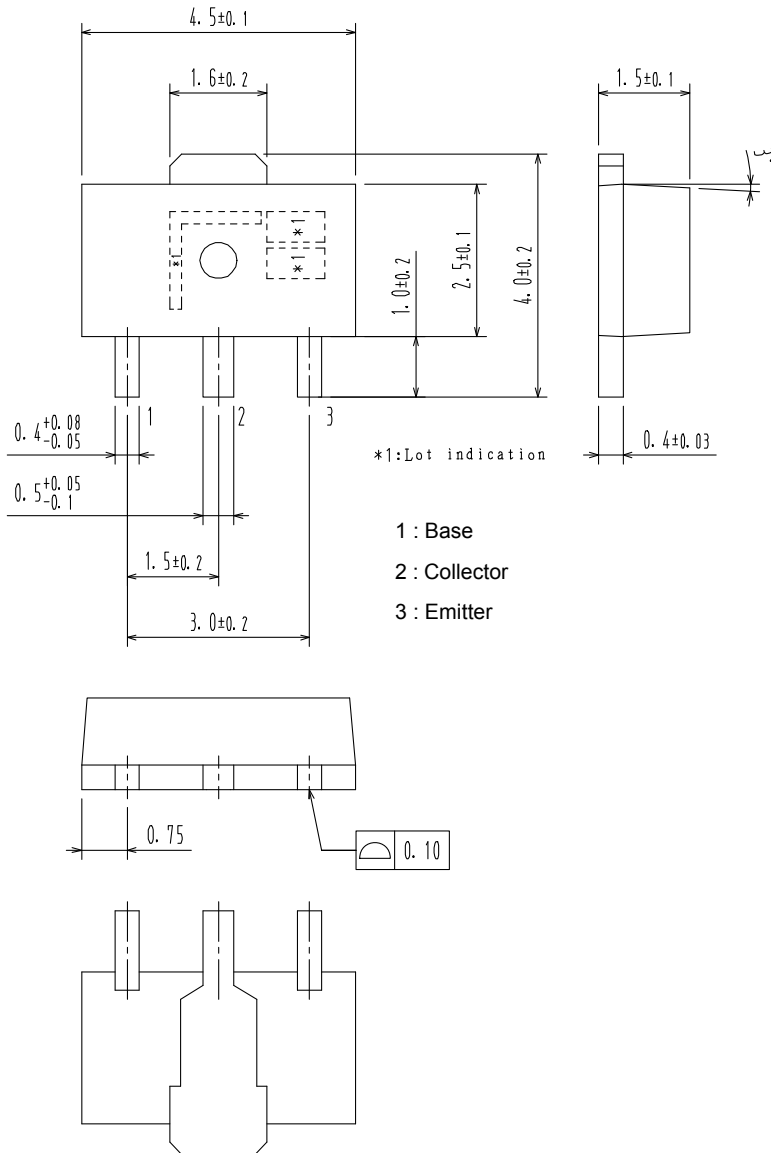
# PACKAGE DIMENSIONS

unit : mm

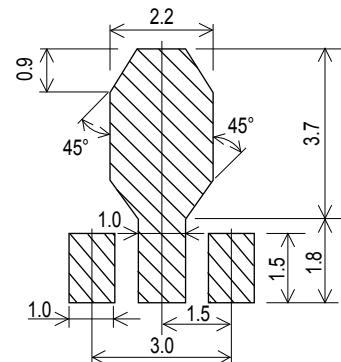
SOT-89 / PCP-1

CASE 419AU

ISSUE O



## Recommended Soldering Footprint



## ORDERING INFORMATION

Device	Marking	Package	Shipping (Qty / Packing)
2SC5994-TD-E	FJ	SOT-89 / PCP-1 (Pb-Free)	1,000 / Tape & Reel

† For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D. [http://www.onsemi.com/pub\\_link/Collateral/BRD8011-D.PDF](http://www.onsemi.com/pub_link/Collateral/BRD8011-D.PDF)

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