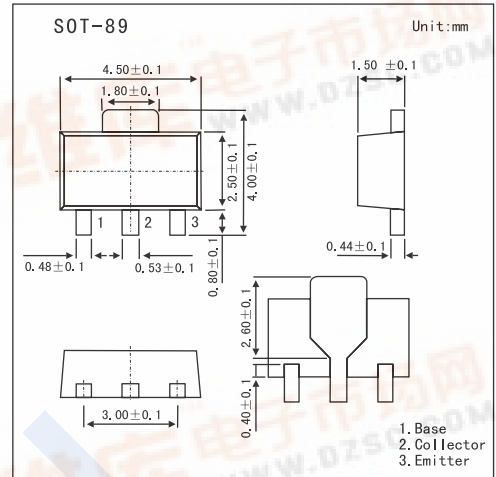


SMD Type Transistors

High-Voltage Switching Applications

2SA1419



■ Features

- Adoption of FBET, MBIT Processes
- High Breakdown Voltage and Large Current Capacity

■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V <sub>CB0</sub>	-180	V
Collector-Emitter Voltage	V <sub>CEO</sub>	-160	V
Emitter-Base Voltage	V <sub>EBO</sub>	-6	V
Collector Current	I <sub>C</sub>	-1.5	A
Collector Current (Pulse)	I <sub>CP</sub>	-2.5	A
Collector Power Dissipation	P <sub>C</sub>	500	mW
	P <sub>C</sub> *	1.5	W
Junction temperature	T <sub>J</sub>	150	°C
Storage temperature Range	T <sub>stg</sub>	-55 to +150	°C

\* Mounted on ceramic board (250 mm<sup>2</sup> x 0.8 mm)

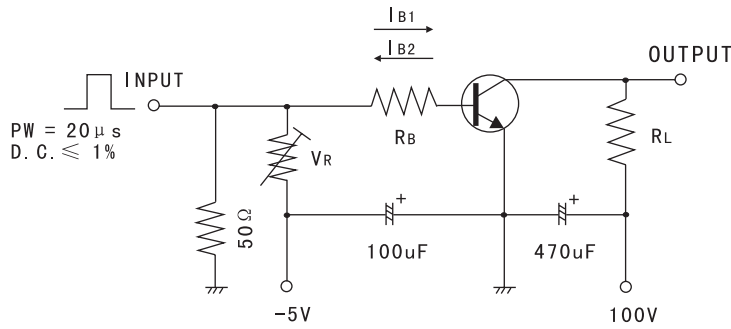
■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit	
Collector Cut-off Current	I <sub>CBO</sub>	V <sub>CB</sub> = -120V, I <sub>E</sub> = 0			-1	uA	
Emitter Cut-off Current	I <sub>EBO</sub>	V <sub>EB</sub> = -4V, I <sub>C</sub> = 0			-1	uA	
Collector-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = -10uA, I <sub>E</sub> = 0	-180			V	
Collector-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = -1mA, R <sub>BE</sub> = ∞	-160			V	
Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = -10uA, I <sub>C</sub> = 0	-6			V	
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> = -5V, I <sub>C</sub> = -100mA	100		400		
		V <sub>CE</sub> = -5V, I <sub>C</sub> = -10mA	80				
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = -500mA, I <sub>B</sub> = -50mA		-0.2	-0.5	V	
Base-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = -500mA, I <sub>B</sub> = -50mA		-0.85	-1.2	V	
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> = -10V, I <sub>C</sub> = -50mA		120		MHz	
Collector Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> = -10V, I <sub>E</sub> = 0, f = 1MHz		22		pF	
Turn-On Time	t <sub>on</sub>	See Test Circuit.		40		ns	
Storage Time	t <sub>stg</sub>				0.7		us
Fall Time	t <sub>f</sub>				40		ns



## 2SA1419

### Test Circuit

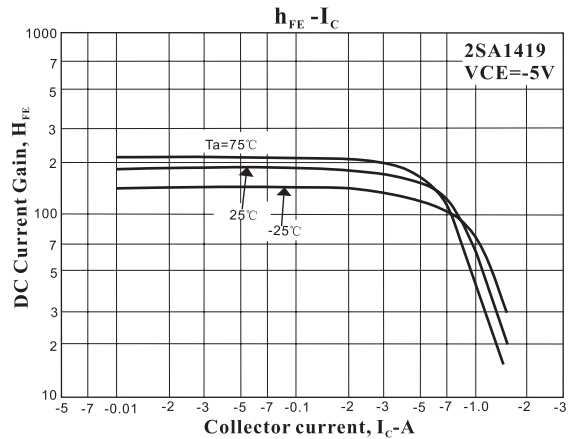
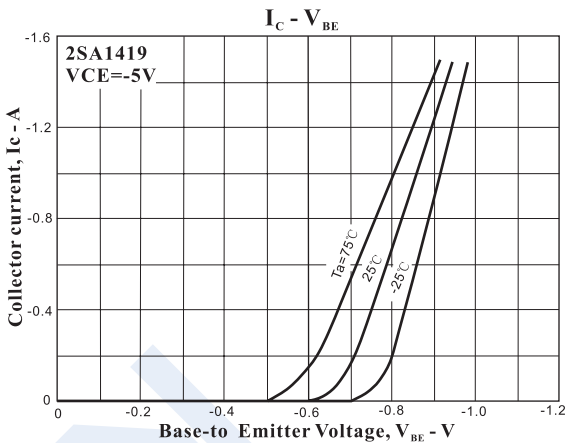
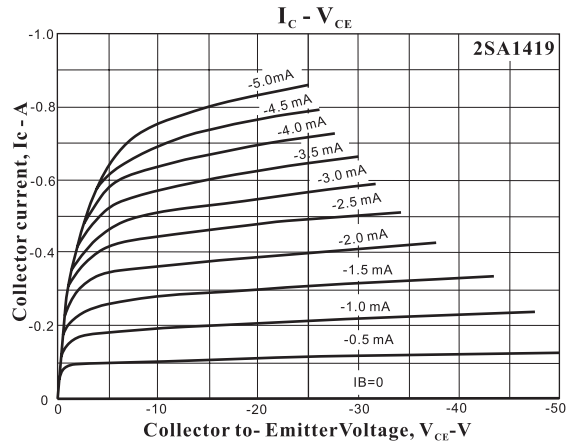
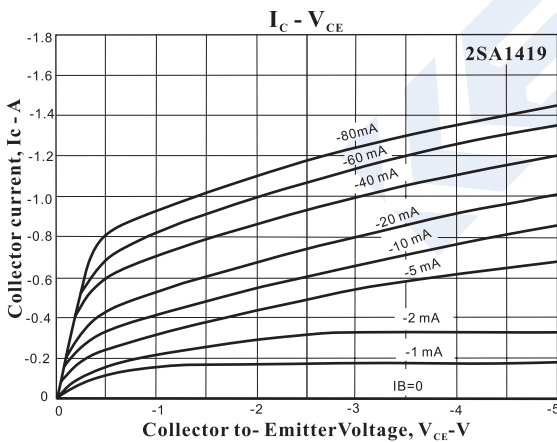


$10|I_{B1}| = -10|I_{B2}| = I_C = 0.7A$   
 (For PNP, the polarity is reversed.)

### hFE Classification

Marking	AE		
Rank	R	S	T
hFE	100 ~ 200	140 ~ 280	200 ~ 400

### Electrical Characteristics Curves



# 2SA1419

