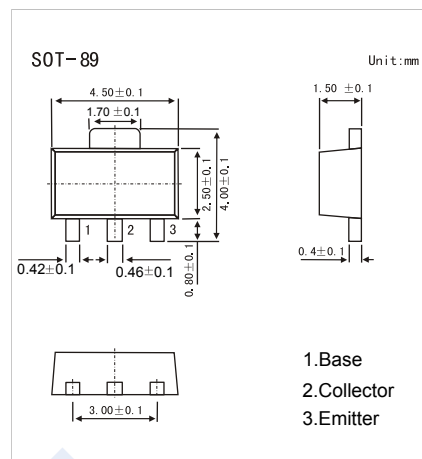


NPN Transistors

2SC4942

■ Features

- High voltage
- Fast switching speed
- Complementary transistor with the 2SA1871

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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CB0}	600	V
Collector - Emitter Voltage	V_{CE0}	600	
Emitter - Base Voltage	V_{EB0}	7	
Collector Current - Continuous	I_C	1	A
Collector current -pulse (Note.1)	I_{CP}	2	
Collector Power Dissipation	P_C	2	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to 150	

Note.1 : Pulse : $P_W \leq 10\text{ms}$, Duty Cycle $\leq 50\%$

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CB0}	$I_C = 100 \mu\text{A}$, $I_E = 0$	600			V
Collector- emitter breakdown voltage	V_{CE0}	$I_C = 1 \text{mA}$, $I_B = 0$	600			
Emitter - base breakdown voltage	V_{EB0}	$I_E = 100 \mu\text{A}$, $I_C = 0$	7			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 600\text{V}$, $I_E = 0$			10	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 7\text{V}$, $I_C = 0$			10	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 400 \text{mA}$, $I_B = 80 \text{mA}$		0.35	1	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 400 \text{mA}$, $I_B = 80 \text{mA}$		0.9	1.2	
DC current gain	h_{FE}	$V_{CE} = 5\text{V}$, $I_C = 100 \text{mA}$	30	55	120	
		$V_{CE} = 5\text{V}$, $I_C = 500 \text{mA}$	5	10		
Turn-on time	t_{on}	$I_C = 0.5 \text{A}$, $V_{CC} = 250 \text{V}$ $I_{B1} = -I_{B2} = 0.1 \text{A}$ $R_L = 500 \Omega$		0.1	0.5	μs
Storage time	t_{stg}			4	5	
Turn-off time	t_{off}			0.2	0.5	
Collector output capacitance	C_{ob}	$V_{CB} = 10\text{V}$, $I_E = 0$, $f = 1\text{MHz}$		15		pF
Transition frequency	f_T	$V_{CE} = 5\text{V}$, $I_E = -50 \text{mA}$		30		MHz

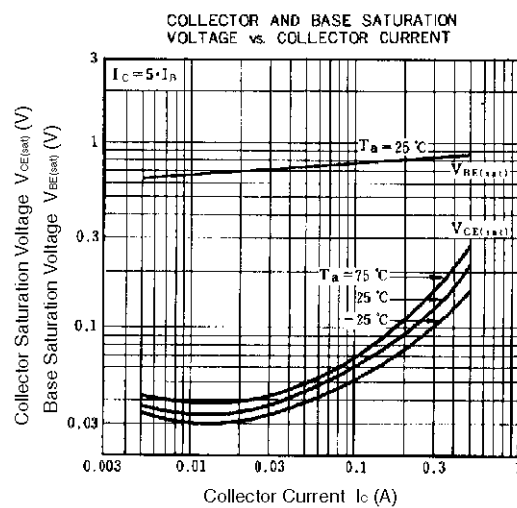
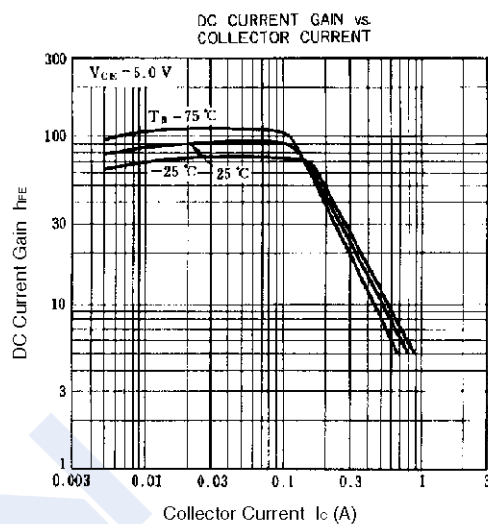
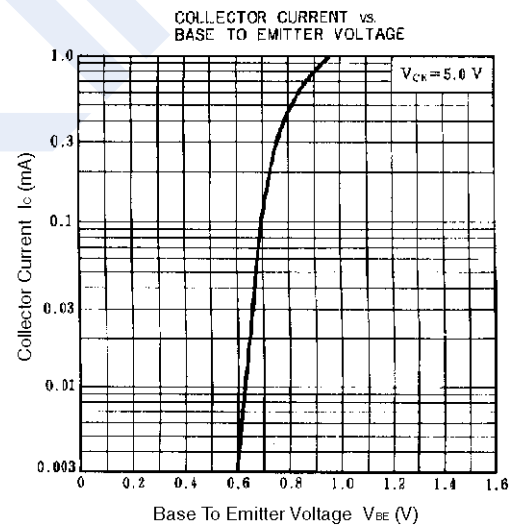
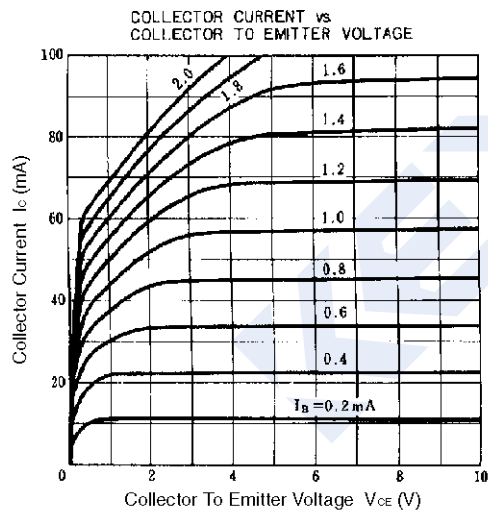
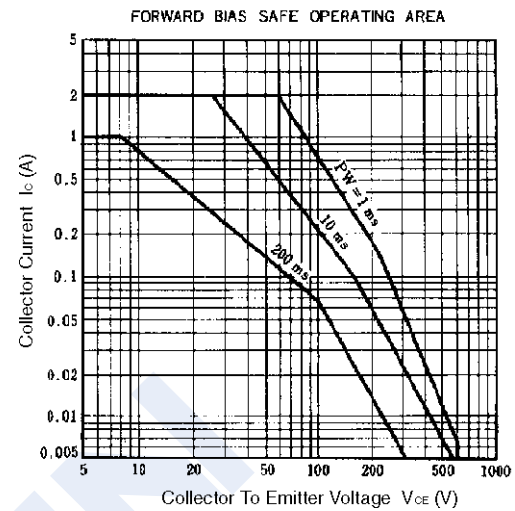
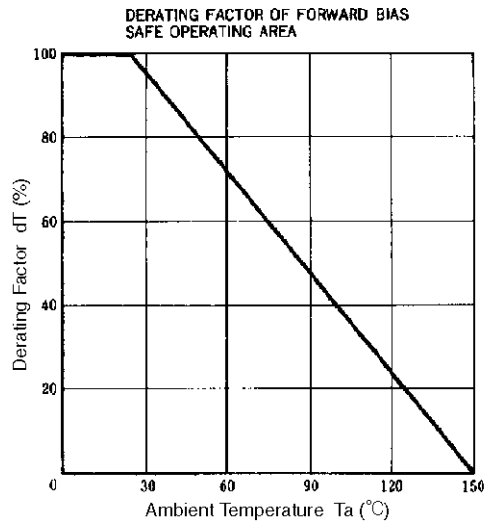
■ Classification of $h_{FE}(1)$

Type	2SC4942-A1	2SC4942-A2	2SC4942-A3
Range	30-60	40-80	60-120
Marking	AA1	AA2	AA3

NPN Transistors

2SC4942

■ Typical Characteristics



NPN Transistors

2SC4942

■ Typical Characteristics

