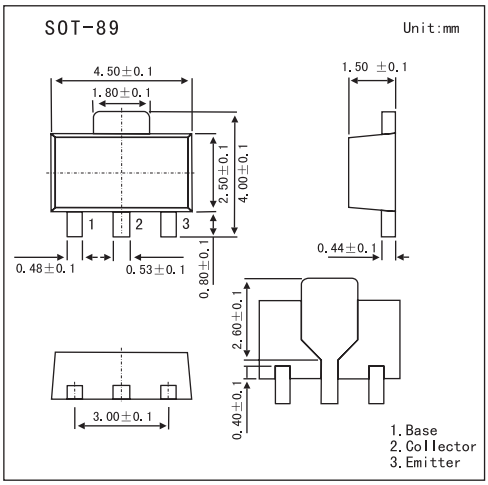
TY Semicondutor®

Product specification

2SA1417



■ Features

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

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	-120	V
Collector-Emitter Voltage	V_{CEO}	-100	V
Emitter-Base Voltage	V_{EBO}	-6	V
Collector Current	I_C	-2	A
Collector Current (Pulse)	I_{CP}	-3	A
Collector Power Dissipation	P_C	500	mW
	P_C *	1.5	W
Jumction temperature	T_j	150	℃
Storage temperature Range	T_{stg}	-55 to +150	℃

* Mounted on ceramic board (250 mm^2 x 0.8 mm)

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector Cut-off Current	I_{CBO}	V_{CB} = -100V , I_E = 0			-100	nA
Emitter Cut-off Current	I_{EBO}	V_{EB} = -4V , I_C = 0			-100	nA
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = -10uA , I_E = 0	-120			V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = -1mA , R_{BE} = ∞	-100			V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = -10uA , I_C = 0	-6			V
DC Current Gain	h_{FE}	V_{CE} = -5V , I_C = -100mA	100		400	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = -1A , I_B = -100mA		-0.22	-0.6	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = -1A , I_B = -100mA		-0.85	-1.2	V
Gain-Bandwidth Product	f_T	V_{CE} = -10V , I_C = -100mA		120		MHz
Collector Output Capacitance	C_{ob}	V_{CB} = -10V , I_E = 0 , f = 1MHz		25		pF
Turn-On Time	t_{on}	See Test Circuit.		80		ns
Storage Time	t_{stg}			750		
Fall Time	t_f			40		

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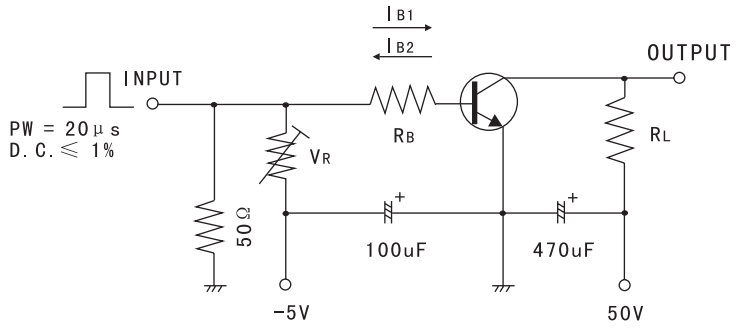
■ Test Circuit

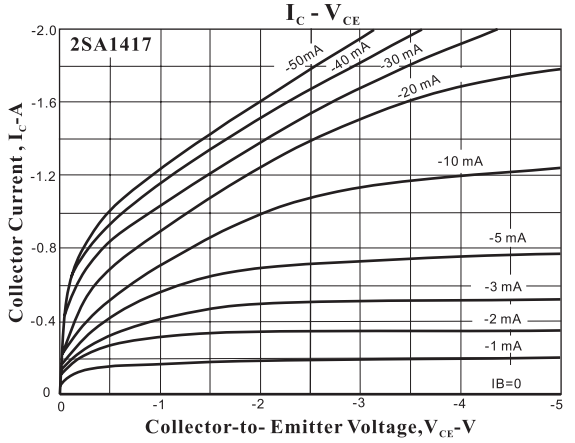


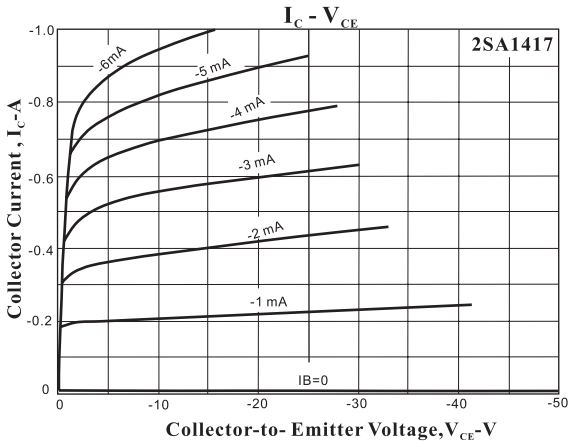
$10I_{B1} = -10I_{B2} = I_C = 0.7A$
(For PNP , the polarity is reversed.)

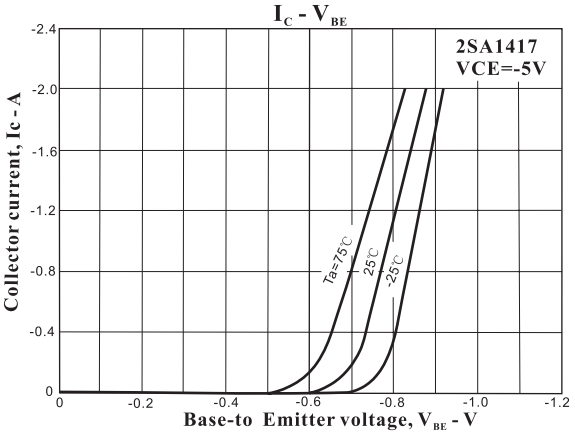
■ hFE Classification

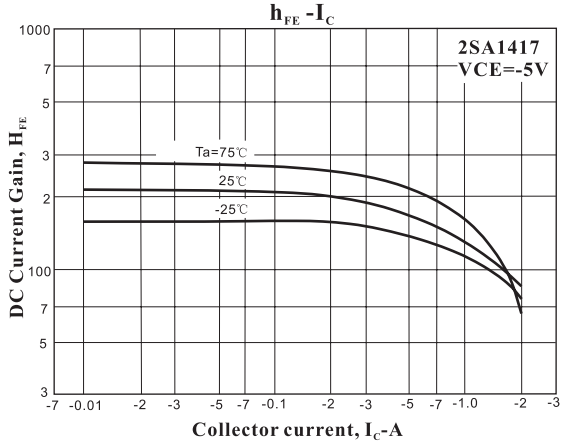
Marking	AC		
Rank	R	S	T
hFE	100 ～ 200	140 ～ 280	200 ～ 400

■ Electrical Characteristics Curves









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