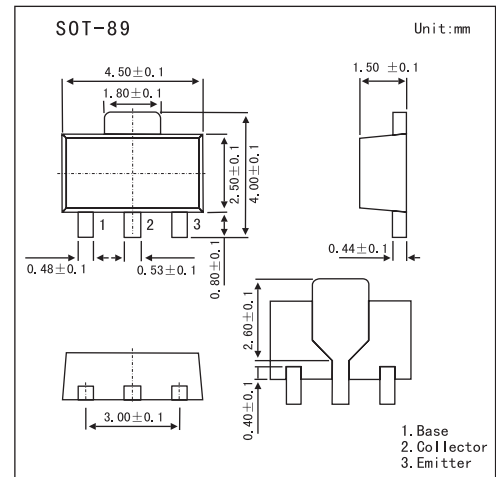


NPN Epitaxial Planar Silicon Transistor

2SC4390

■ Features

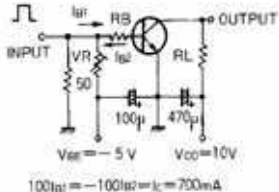
- Adoption of MBIT process.
- High DC current gain ($h_{FE}=800$ to 3200).
- Large current capacity ($I_C=2A$).
- Low collector-to-emitter saturation voltage ($V_{CE(sat)} \leq 0.3V$).
- High V_{EBO} ($V_{EBO} \geq 15V$).

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	20	V
Collector-emitter voltage	V_{CEO}	10	V
Emitter-base voltage	V_{EBO}	15	V
Collector current	I_C	2	A
Collector current (pulse)	I_{CP}	4	A
Base current	I_B	0.4	A
Collector dissipation	P_C	500	mW
Junction temperature	T_j	150	$^\circ C$
Storage temperature	T_{stg}	-55 to +150	$^\circ C$

2SC4390

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit	
Collector cutoff current	ICBO	V _{CB} = 15V, I _E =0			0.1	μA	
Emitter cutoff current	IEBO	V _{EB} = 10V, I _C =0			0.1	μA	
DC current gain	hFE	V _{CE} = 2V, I _C = 500mA	800	1500	3200		
Gain bandwidth product	f _T	V _{CE} = 10V, I _C = 50mA		260		MHz	
Output capacitance	C _{ob}	V _{CB} = 10V, f = 1.0MHz		280		pF	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C = 1 A, I _B = 20mA		0.11	0.5	V	
Base-emitter saturation voltage	V _{BE(sat)}	I _C = 1 A, I _B = 20mA		0.87	1.2	V	
Collector-base breakdown voltage	V _{(BR)CBO}	I _C = 10μA, I _E = 0	20			V	
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C = 1mA, R _{BE} = ∞	10			V	
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E = 10μA, I _C = 0	15			V	
Turn-on time	t _{on}	Switching Time Test Circuit PW = 20μs DC ≤ 1%  V _{EE} = -5 V V _{CC} = 10V 100Ω ₁ = 100Ω ₂ = I _C = 700mA		0.13		μs	
Storage time	t _{stg}				0.8		μs
Fall time	t _f				0.1		μs