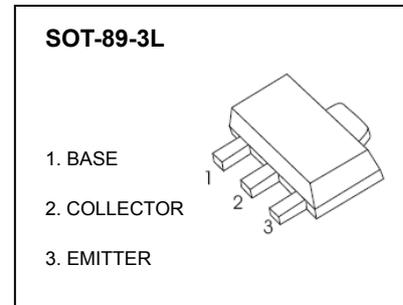


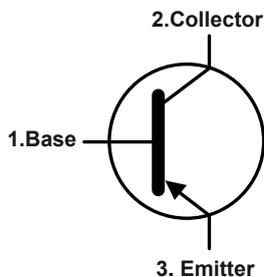
PNP Epitaxial Planar Silicon Transistors

● Features

- 1) Low saturation voltage, typically
 $V_{CE(sat)} = -400\text{mV (Max.)}$
 $(I_C/I_B = -500\text{mA}/-25\text{mA})$
- 2) High speed switching



● Inner circuit



Marking Code : MC

● Absolute maximum ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Values	Unit
Collector-base voltage	V_{CBO}	-50	V
Collector-emitter voltage	V_{CEO}	-50	V
Emitter-base voltage	V_{EBO}	-6	V
Collector current	I_C	-1	A
	I_{CP}^{*1}	-2	A
Power dissipation	P_D^{*2}	0.5	W
	P_D^{*3}	2.0	W
Junction temperature	T_j	150	$^\circ\text{C}$
Range of storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

● **Electrical characteristics** ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
Collector-base breakdown voltage	BV_{CBO}	$I_C = -100\mu\text{A}$	-50	-	-	V
Collector-emitter breakdown voltage	BV_{CEO}	$I_C = -1\text{mA}$	-50	-	-	V
Emitter-base breakdown voltage	BV_{EBO}	$I_E = -100\mu\text{A}$	-6	-	-	V
Collector cut-off current	I_{CBO}	$V_{CB} = -50\text{V}$	-	-	-1.0	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -4\text{V}$	-	-	-1.0	μA
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500\text{mA}, I_B = -25\text{mA}$	-	-	-400	mV
DC current gain	h_{FE}	$V_{CE} = -2\text{V}, I_C = -50\text{mA}$	180	-	450	-
Transition frequency	f_T^{*4}	$V_{CE} = -10\text{V}, I_E = 200\text{mA},$ $f = 100\text{MHz}$	-	400	-	MHz
Output capacitance	C_{ob}	$V_{CB} = -10\text{V}, I_E = 0\text{A},$ $f = 1\text{MHz}$	-	12	-	pF
Turn-On time	t_{on}	$I_C = -500\text{mA},$ $I_{B1} = -50\text{mA},$	-	40	-	ns
Storage time	t_{stg}	$I_{B2} = 50\text{mA},$ $V_{CC} \approx -10\text{V},$	-	250	-	ns
Fall time	t_f	$R_L = 20\Omega$ See test circuit	-	35	-	ns

*1 $P_w = 10\text{ms}$, Single Pulse

*2 Each terminal mounted on a reference land.

*3 Mounted on a ceramic board. (40×40×0.7mm)

*4 Pulsed

● **Electrical characteristic curves** ($T_a = 25^\circ\text{C}$)

Fig.1 Ground Emitter Propagation Characteristics

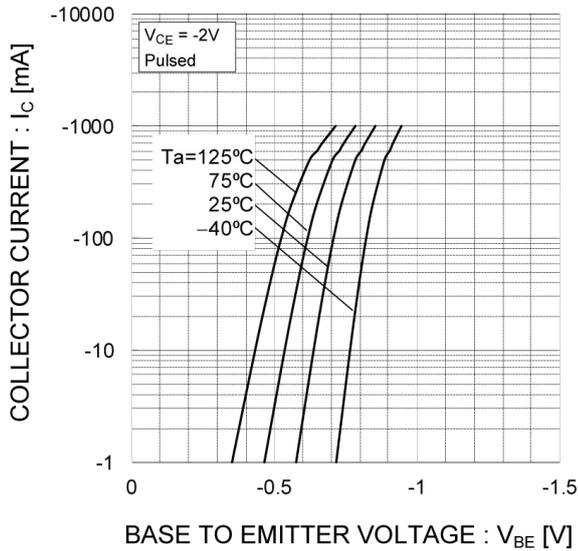


Fig.2 Typical Output Characteristics

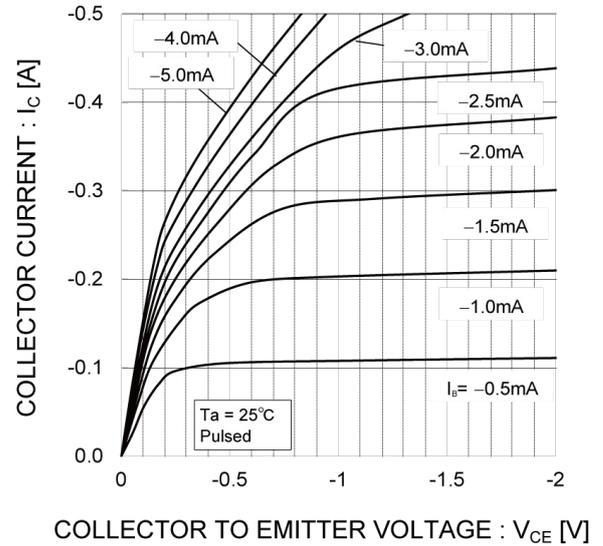


Fig.3 DC Current Gain vs. Collector Current (I_c)

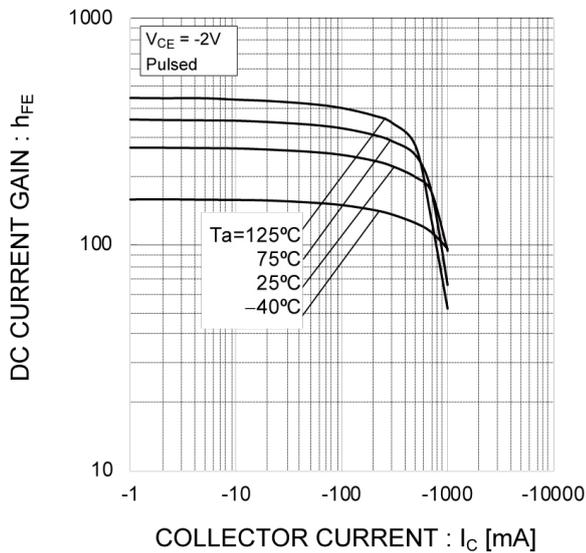


Fig.4 Safe Operating Area

