

2SA1500

Silicon PNP Epitaxial Planar Type

Power Switching

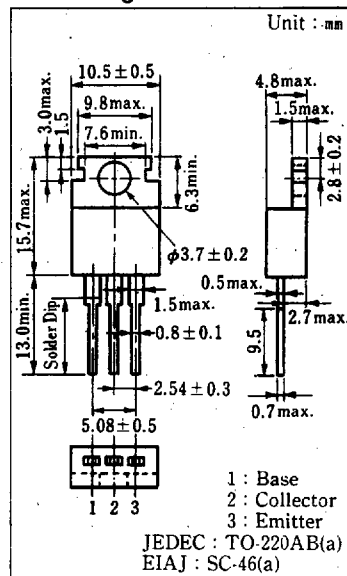
■ Features

- High speed switching
- High collector-base voltage (V_{CB0})
- Wide area of safety operation (ASO)
- Good linearity of DC current gain (h_{FE})

■ Absolute Maximum Ratings ($T_c=25^\circ\text{C}$)

Item	Symbol	Value	Unit
Collector-base voltage	V_{CB0}	-400	V
Collector-emitter voltage	V_{CEO}	-400	V
Emitter-base voltage	V_{EBO}	-7	V
Peak collector current	I_{CP}	-8	A
Collector current	I_C	-5	A
Collector power dissipation	P_C	40	W
		1.4	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 ~ +150	$^\circ\text{C}$

■ Package Dimensions

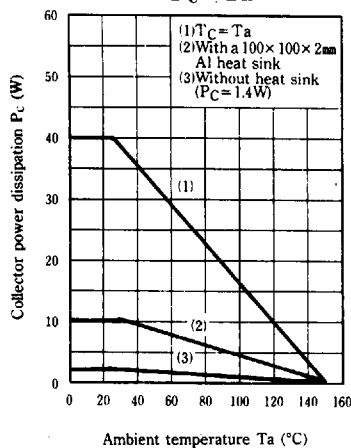
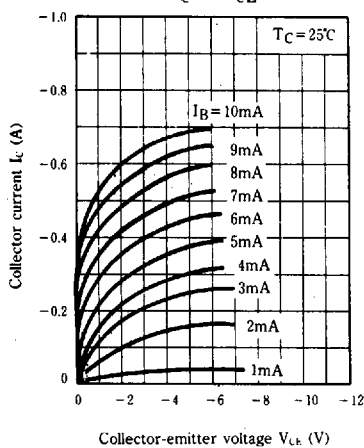
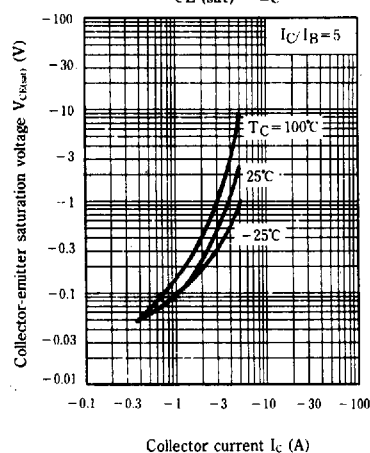
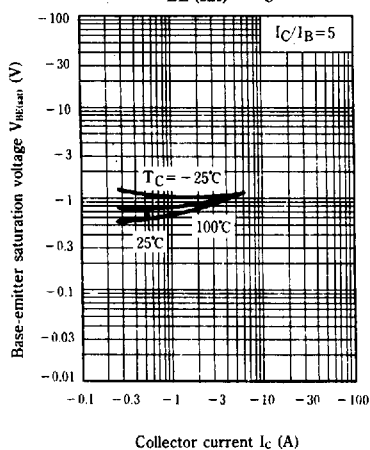
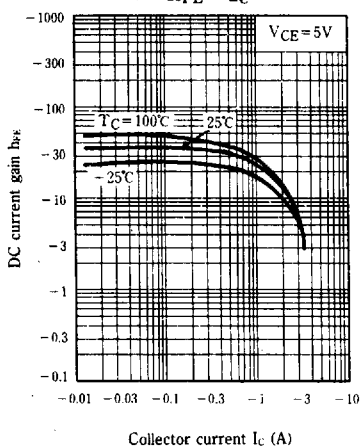
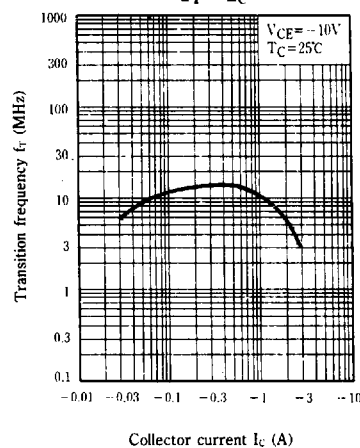
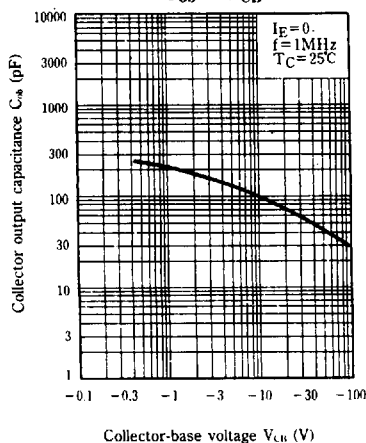
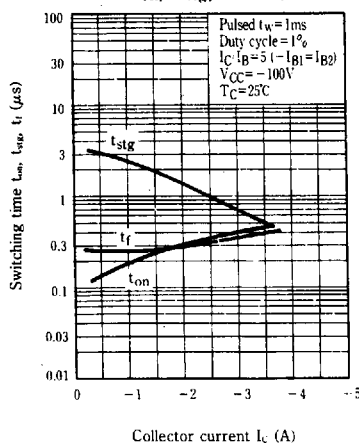


■ Electrical Characteristics ($T_c=25^\circ\text{C}$)

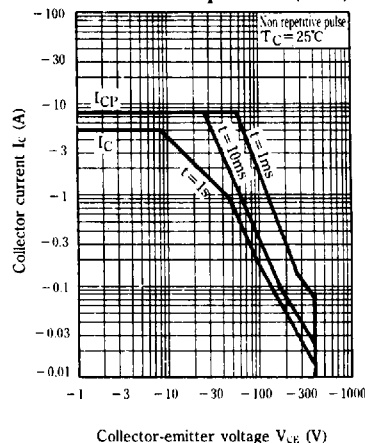
Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CB0}	$V_{CB} = -400\text{V}, I_E = 0$			-100	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = -7\text{V}, I_C = 0$			-100	μA
Collector-emitter voltage	V_{CEO}	$I_C = -10\text{mA}, I_B = 0$	-400			V
DC current gain	h_{FE1}^*	$V_{CE} = -5\text{V}, I_C = -0.5\text{A}$	20		100	
	h_{FE2}	$V_{CE} = -5\text{V}, I_C = -2\text{A}$	8			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -2\text{A}, I_B = -0.4\text{A}$			-1.0	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 2\text{A}, I_B = -0.4\text{A}$			-1.5	V
Transition frequency	f_T	$V_{CE} = -10\text{V}, I_C = -0.5\text{A}, f = 1\text{MHz}$		15		MHz
Turn-on time	t_{on}	$I_C = -2\text{A}$			1.0	μs
Storage time	t_{stg}	$I_{B1} = -0.4\text{A}, I_{B2} = 0.4\text{A}$			2.5	μs
Collector current fall time	t_f	$V_{CC} = -100\text{V}$			1.0	μs

* h_{FE1} Classifications

Class	Q	P
h_{FE1}	20 ~ 60	50 ~ 100

$P_C - T_a$  $I_C - V_{CE}$  $V_{CE(sat)} - I_C$  $V_{BE(sat)} - I_C$  $h_{FE} - I_C$  $f_T - I_C$  $C_{ob} - V_{CB}$  $t_{on}, t_{stg}, t_f - I_C$ 

Area of safe operation (ASO)



$R_{th(t)} - t$ 