

2SA1614

Silicon PNP Triple-Diffused Planar Type

High Speed Switching

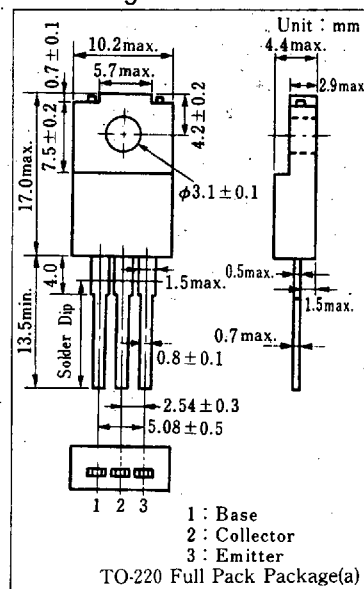
■ Features

- High speed switching
- High collector-base voltage (V_{CB0})
- Wide area of safety operation (ASO)
- Good linearity of DC current gain (h_{FE})
- "Full Pack" package for simplified mounting only by a screw requires no insulator

■ 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_{EB0}	-7	V
Peak collector current	I_{CP}	-1	A
Collector current	I_C	-0.5	A
Collector power dissipation	$T_c=25^\circ\text{C}$	25	W
	$T_a=25^\circ\text{C}$	2	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 ~ +150	$^\circ\text{C}$

■ Package Dimensions



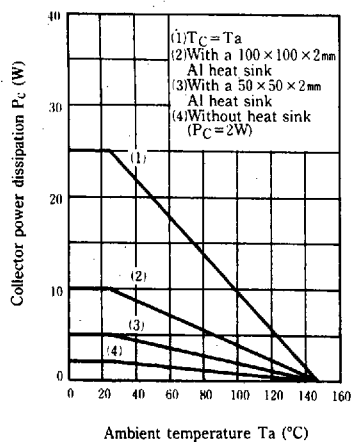
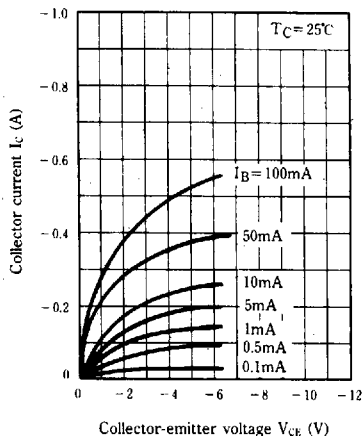
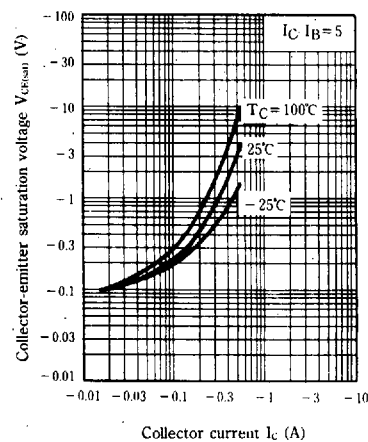
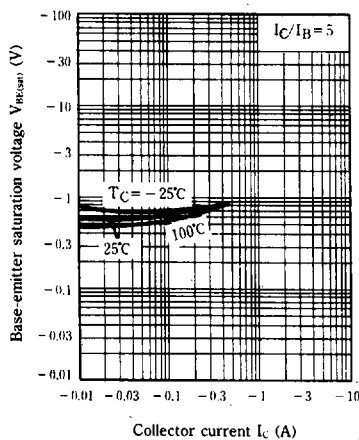
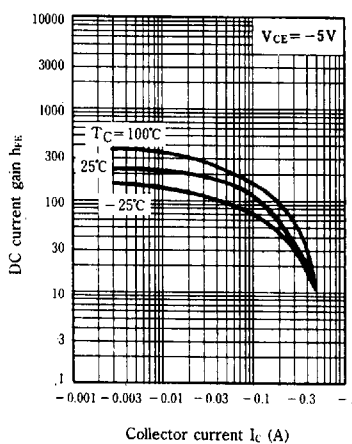
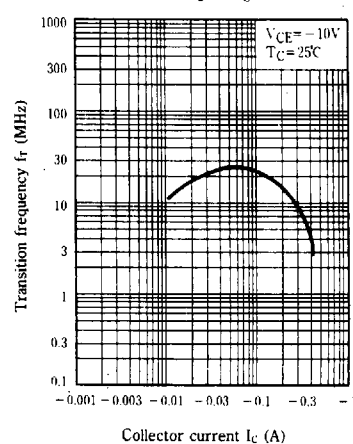
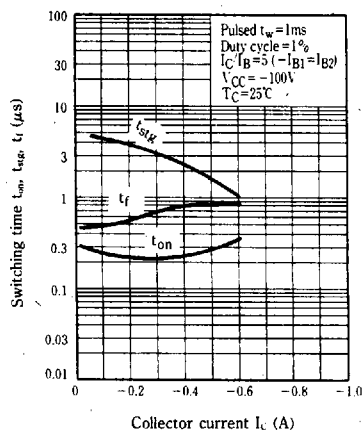
■ Electrical Characteristics ($T_c=25^\circ\text{C}$)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = -400\text{V}, I_E = 0$			-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}^*	$V_{CE} = -5\text{V}, I_C = -50\text{mA}$	80		280	
	h_{FE2}	$V_{CE} = -5\text{V}, I_C = -0.3\text{A}$	10			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -0.2\text{A}, I_B = -40\text{mA}$			-1.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -0.2\text{A}, I_B = -40\text{mA}$			-1.5	V
Transition frequency	f_T	$V_{CE} = -10\text{V}, I_C = -0.1\text{A}, f = 1\text{MHz}$		20		MHz
Turn-on time	t_{on}	$I_C = -0.3\text{A}$		0.25		μs
Storage time	t_{stg}	$I_{B1} = -60\text{mA}, I_{B2} = 60\text{mA}$		2.0		μs
Collector current fall time	t_f	$V_{CC} = -200\text{V}$		0.5		μs

* h_{FE1} Classifications

Class	Q	P
h_{FE1}	80 ~ 160	130 ~ 280

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

Safety operation area-forward bias (ASO)

