2SC4576

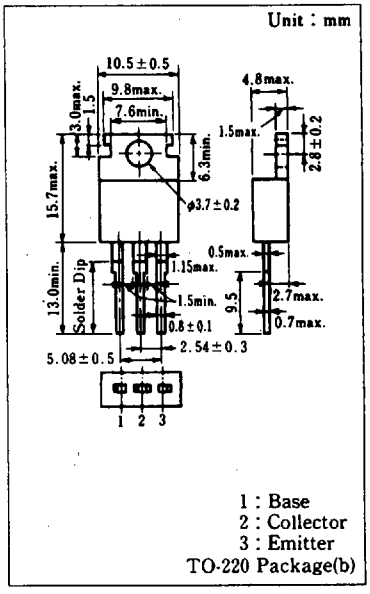
Silicon NPN Triple-Diffused Planar Type

High Breakdown Voltage, High Speed Switching

■ Features

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

■ Package Dimensions



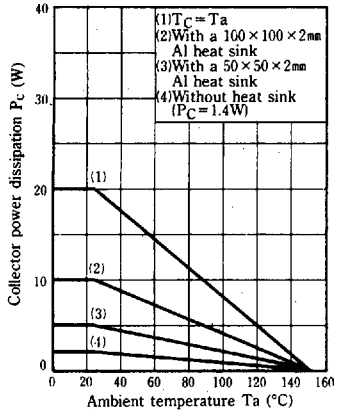
■ Absolute Maximum Ratings (Tc=25°C)

Item		Symbol	Value	Unit
Collector-base voltage		V_{CBO}	1400	V
Collector-emitter voltage		V_{CER}	1400	V
		V_{CEO}	700	V
Emitter-base voltage		V_{EBO}	5	V
Peak collector current		I_{CP}	1.0	A
Collector current		I_C	0.3	A
Collector power dissipation	T_C=25°C	P_C	20	W
	Ta=25°C		1.4	
Junction temperature		T_j	150	°C
Storage temperature		T_{stg}	−55~+150	°C

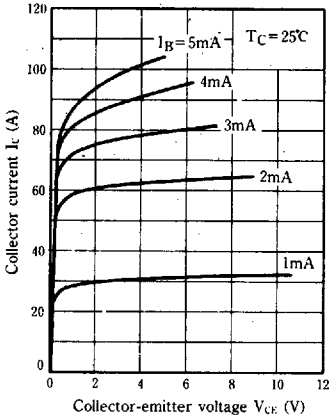
■ Electrical Characteristics (Tc=25°C)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	V_{CB}=1100V, I_E=0			10	μA
Emitter cutoff current	I_{EBO}	V_{EB}=4V, I_C=0			10	μA
Collector-emitter voltage	V_{CEO}	I_C=1mA, I_B=0	700			V
Collector-emitter voltage	V_{CER}	I_C=1mA, R_{BE}=100Ω	1400			V
Emitter-base voltage	V_{EBO}	I_E=1mA, I_C=0	5			V
DC current gain	h_{FE}	V_{CE}=5V, I_C=30mA	10		40	
Collector-emitter saturation voltage	$V_{CE\ (sat)}$	I_C=60mA, I_B=6mA			2	V
Base-emitter saturation voltage	$V_{BE\ (sat)}$	I_C=60mA, I_B=6mA			2	V
Transition frequency	f_T	V_{CE}=10V, I_C=30mA, f=1MHz		12		MHz
Turn-on time	t_{on}	I_C=150mA			2	μs
Storage time	t_{stg}	I_{B1}=15mA, I_{B2}=−30mA			3	μs
Collector current fall time	t_f	V_{CC}=250V			1	μs

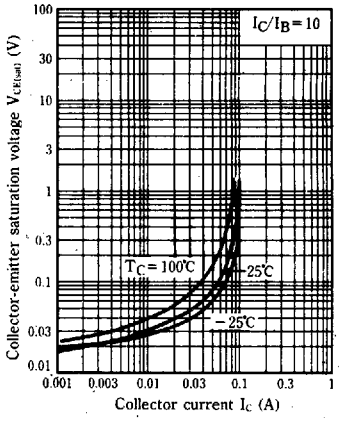
$P_C - Ta$



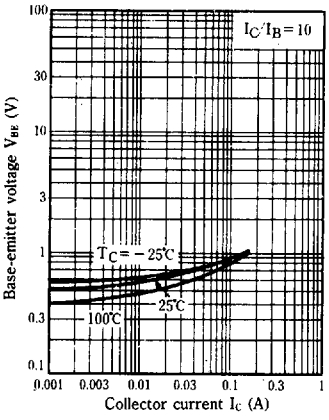
$I_C - V_{CE}$



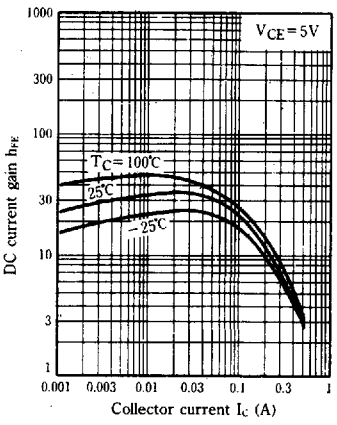
$V_{CE\,(sat)} - I_C$



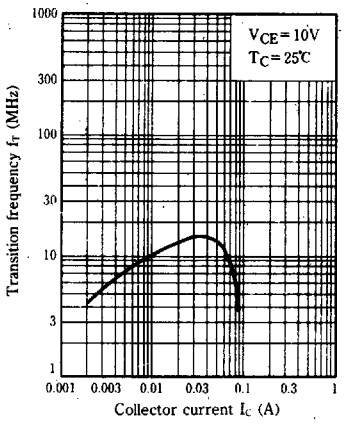
$V_{BE\,(sat)} - I_C$



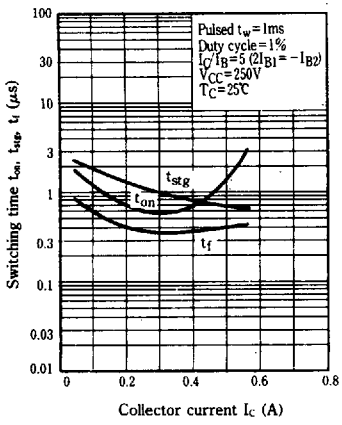
$h_{FE} - I_C$



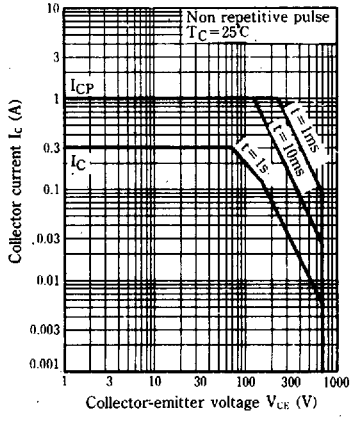
$f_T - I_C$



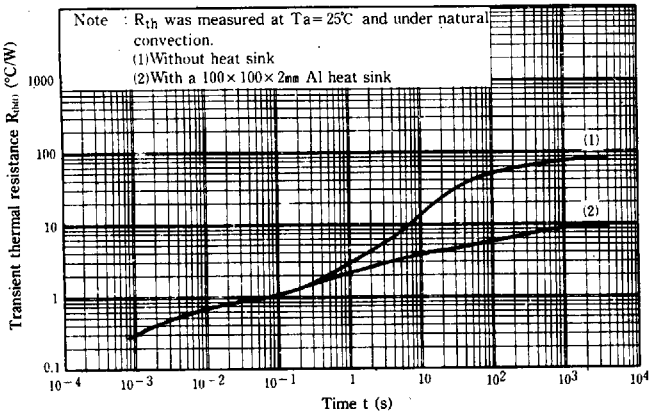
t_{on}, t_{stg}, $t_f - I_C$



Safety operation area-forward bias (ASO)



$R_{th(t)}-t$


Note : R_{th} was measured at Ta= 25℃ and under natural convection.
(1)Without heat sink
(2)With a 100× 100× 2mm Al heat sink
Transient thermal resistance $R_{th(t)}$ (℃/W)
1000
100
10
1
0.1
(1)
(2)
10^{-4}
10^{-3}
10^{-2}
10^{-1}
1
10
10^{2}
10^{3}
10^{4}
Time t (s)