

2SA1499

Silicon PNP epitaxial planar type

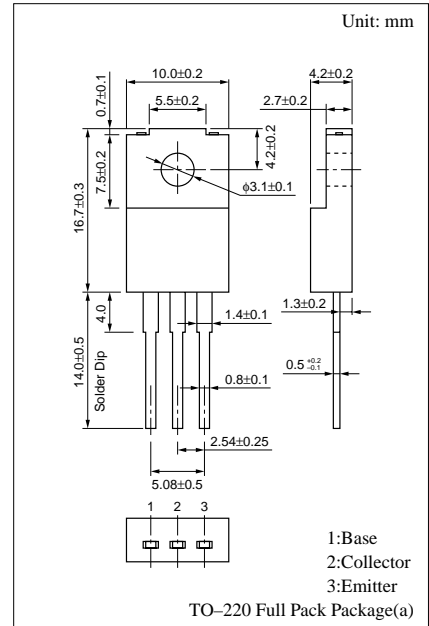
For high-speed switching

■ Features

- High forward current transfer ratio h_{FE}
- High-speed switching
- High collector to base voltage V_{CBO}
- Full-pack package which can be installed to the heat sink with one screw.

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

Parameter	Symbol	Rated	Unit	
Collector to base voltage	V_{CBO}	-400	V	
Collector to emitter voltage	V_{CEO}	-400	V	
Emitter to base voltage	V_{EBO}	-7	V	
Peak collector current	I_{CP}	-1.2	A	
Collector current	I_C	-0.6	A	
Collector power dissipation	P_C	$T_C=25^\circ\text{C}$	25	W
		$T_a=25^\circ\text{C}$	2	
Junction temperature	T_j	150	$^\circ\text{C}$	
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$	



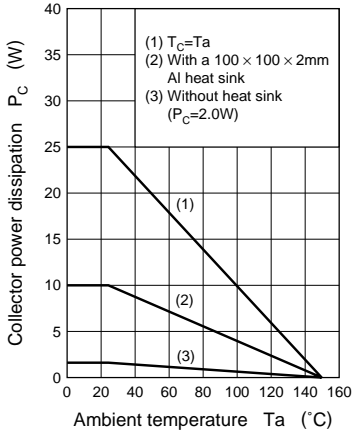
■ Electrical Characteristics ($T_C=25^\circ\text{C}$)

Parameter	Symbol	Conditions	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 to emitter voltage	V_{CEO}	$I_C = -10\text{mA}, I_B = 0$	-400			V
Forward current transfer ratio	h_{FE1}^*	$V_{CE} = -5\text{V}, I_C = -100\text{mA}$	30		160	
	h_{FE2}	$V_{CE} = -5\text{V}, I_C = -300\text{mA}$	10			
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = -300\text{mA}, I_B = -60\text{mA}$			-1.0	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = -300\text{mA}, I_B = -60\text{mA}$			-1.2	V
Transition frequency	f_T	$V_{CE} = -10\text{V}, I_C = -100\text{mA}, f = 1\text{MHz}$		15		MHz
Turn-on time	t_{on}	$I_C = -300\text{mA},$			1.0	μs
Storage time	t_{stg}	$I_{B1} = -60\text{mA}, I_{B2} = 60\text{mA},$			3.5	μs
Fall time	t_f	$V_{CC} = -100\text{V}$			1.0	μs

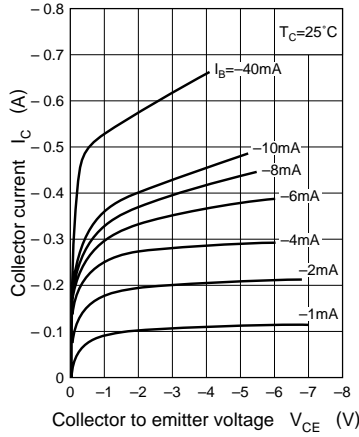
* h_{FE1} Rank classification

Rank	Q	P	O
h_{FE1}	30 to 60	50 to 100	80 to 160

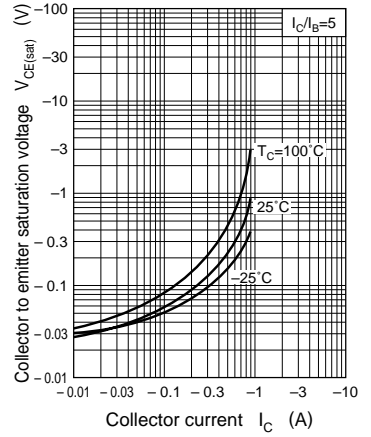
$P_C - T_a$



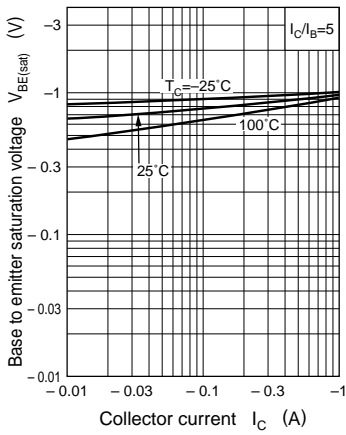
$I_C - V_{CE}$



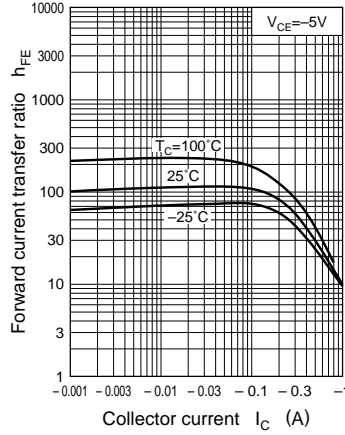
$V_{CE(sat)} - I_C$



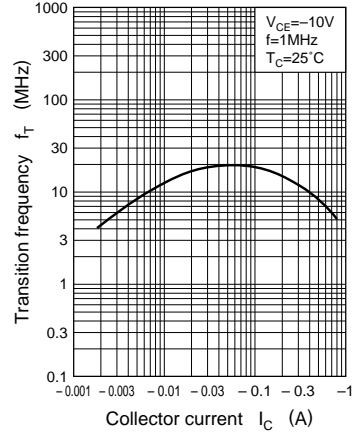
$V_{BE(sat)} - I_C$



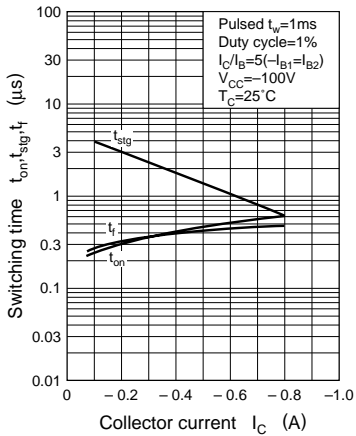
$h_{FE} - I_C$



$f_T - I_C$



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



Area of safe operation (ASO)

