

2SD1474

Silicon NPN epitaxial planar type

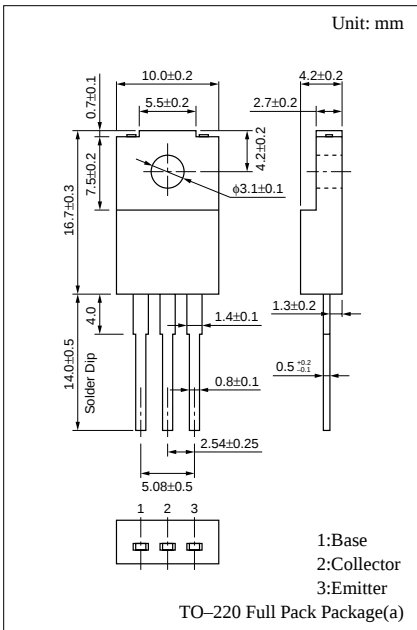
For power amplification with high forward current transfer ratio

■ Features

- High forward current transfer ratio h_{FE} which has satisfactory linearity
- High emitter to base voltage V_{EBO}
- 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	Ratings	Unit
Collector to base voltage		V_{CBO}	100	V
Collector to emitter voltage		V_{CEO}	60	V
Emitter to base voltage		V_{EBO}	15	V
Peak collector current		I_{CP}	12	A
Collector current		I_C	6	A
Base current		I_B	3	A
Collector power dissipation	$T_C=25^{\circ}\text{C}$	P_C	40	W
	$T_a=25^{\circ}\text{C}$		2	
Junction temperature		T_j	150	$^{\circ}\text{C}$
Storage temperature		T_{stg}	-55 to +150	$^{\circ}\text{C}$

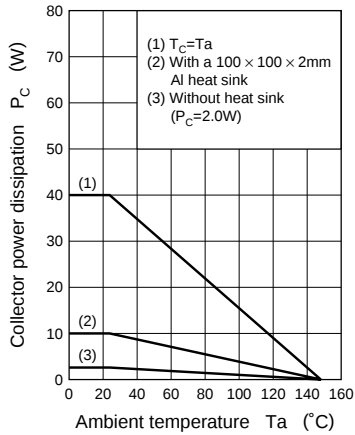
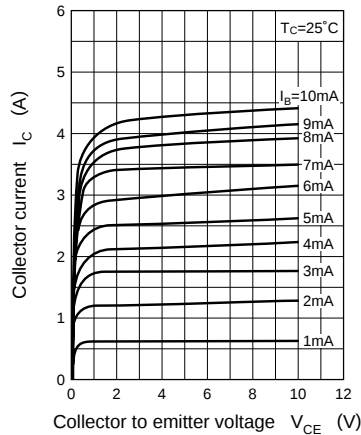
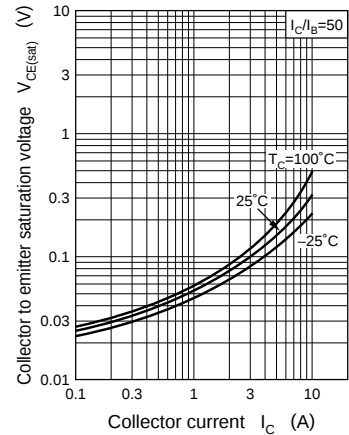
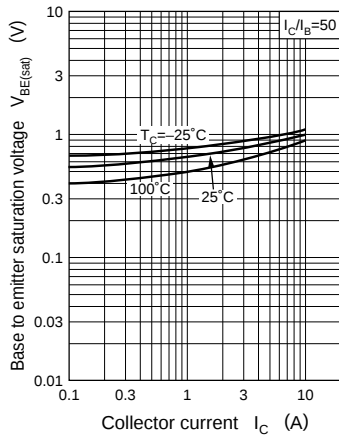
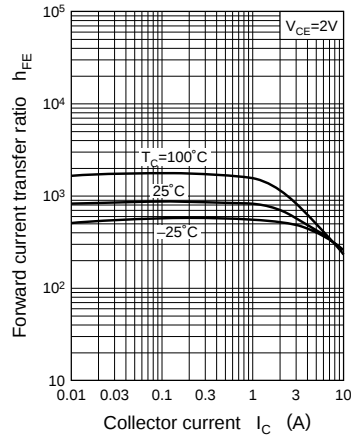
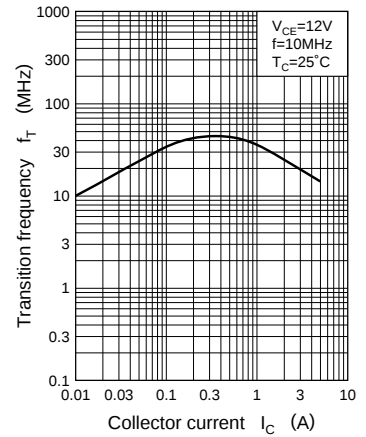
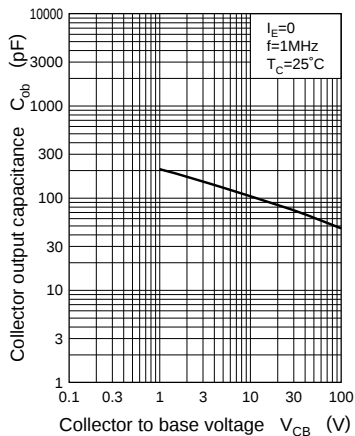
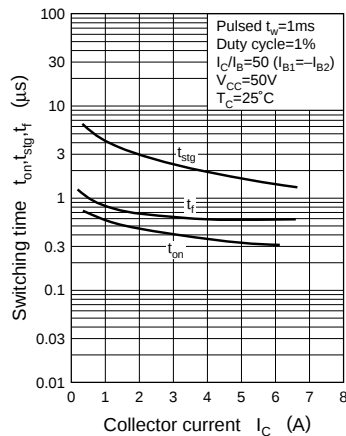


■ Electrical Characteristics ($T_C=25^\circ\text{C}$)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 100\text{V}, I_E = 0$			100	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 15\text{V}, I_C = 0$			100	μA
Collector to emitter voltage	V_{CEO}	$I_C = 25\text{mA}, I_B = 0$	60			V
Forward current transfer ratio	h_{FE}^*	$V_{CE} = 4\text{V}, I_C = 1\text{A}$	300		2000	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 5\text{A}, I_B = 0.1\text{A}$			0.5	V
Transition frequency	f_T	$V_{CE} = 12\text{V}, I_C = 0.5\text{A}, f = 10\text{MHz}$		30		MHz
Turn-on time	t_{on}	$I_C = 5\text{A}, I_{B1} = 0.1\text{A}, I_{B2} = -0.1\text{A}, V_{CC} = 50\text{V}$		0.3		μs
Storage time	t_{stg}			1.5		μs
Fall time	t_f			0.6		μs

* h_{FE} Rank classification

Rank	Q	P
h_{FE}	300 to 1200	800 to 2000

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

Area of safe operation (ASO)

