

2SD2544

Silicon NPN triple diffusion planar type

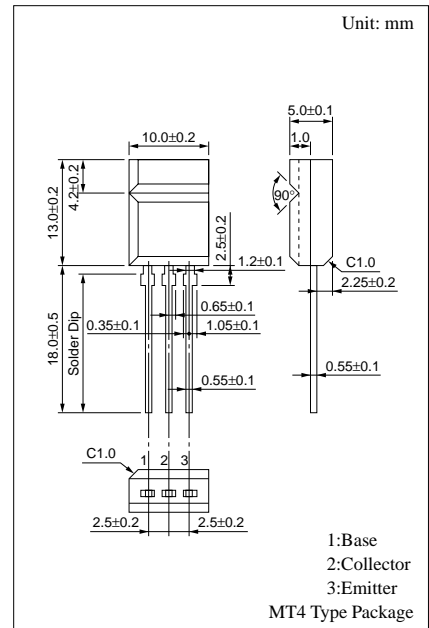
For power amplification with high forward current transfer ratio

Features

- High forward current transfer ratio h_{FE}
- Satisfactory linearity of forward current transfer ratio h_{FE}
- Allowing supply with the radial taping

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

Parameter	Symbol	Ratings	Unit	
Collector to base voltage	V_{CBO}	60	V	
Collector to emitter voltage	V_{CEO}	60	V	
Emitter to base voltage	V_{EBO}	7	V	
Peak collector current	I_{CP}	8	A	
Collector current	I_C	4	A	
Collector power dissipation	P_C	$T_C=25^\circ\text{C}$	15	W
		$T_a=25^\circ\text{C}$	2	
Junction temperature	T_j	150	$^\circ\text{C}$	
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$	



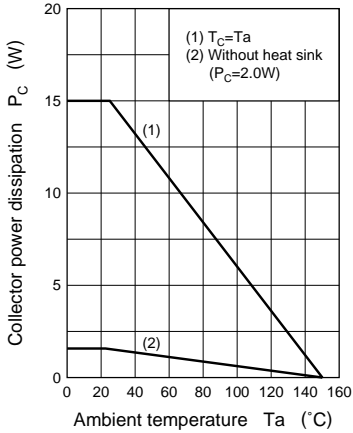
Electrical Characteristics ($T_C=25^\circ\text{C}$)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 60\text{V}, I_E = 0$			10	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 7\text{V}, I_C = 0$			10	μA
Collector to emitter voltage	V_{CEO}	$I_C = 10\text{mA}, I_B = 0$	60			V
Forward current transfer ratio	h_{FE1}^*	$V_{CE} = 2\text{V}, I_C = 0.8\text{A}$	500	1000	2000	
	h_{FE2}	$V_{CE} = 2\text{V}, I_C = 2\text{A}$	60			
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 2\text{A}, I_B = 50\text{mA}$			0.5	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = 2\text{A}, I_B = 50\text{mA}$			1.5	V
Transition frequency	f_T	$V_{CE} = 10\text{V}, I_C = 0.5\text{A}, f = 10\text{MHz}$		70		MHz
Turn-on time	t_{on}	$I_C = 2\text{A}, I_{B1} = 50\text{mA}, I_{B2} = -50\text{mA}, V_{CC} = 50\text{V}$		0.5		μs
Storage time	t_{stg}			3.6		μs
Fall time	t_f			1.1		μs

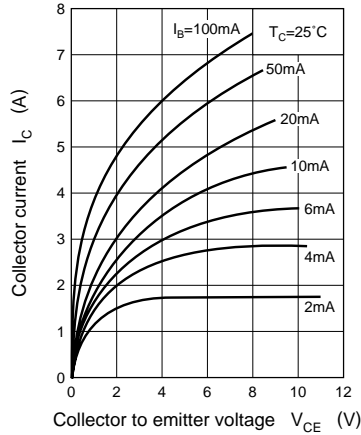
* h_{FE1} Rank classification

Rank	Q	P
h_{FE1}	500 to 1200	800 to 2000

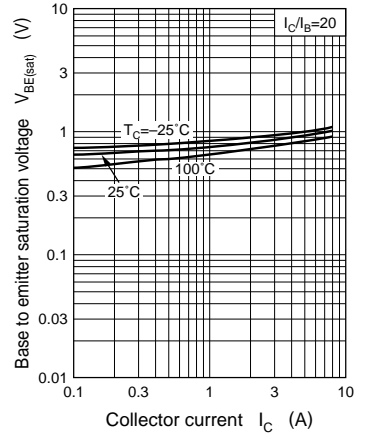
$P_C - T_a$



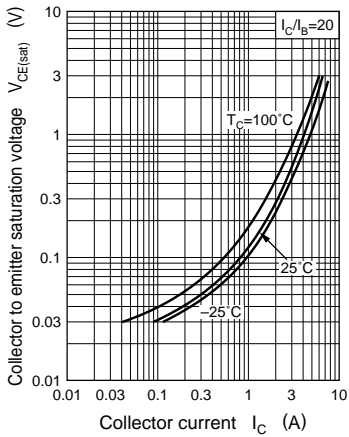
$I_C - V_{CE}$



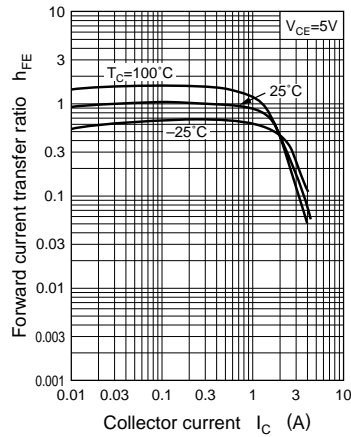
$V_{BE(sat)} - I_C$



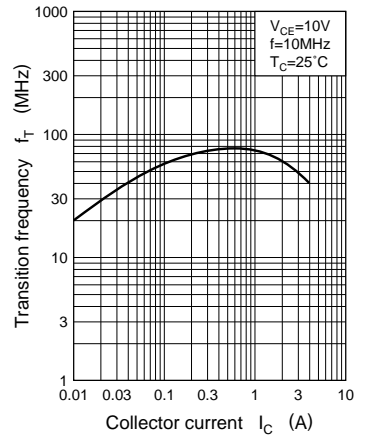
$V_{CE(sat)} - I_C$



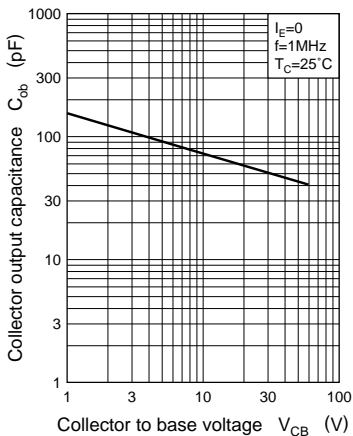
$h_{FE} - I_C$



$f_T - I_C$



$C_{ob} - V_{CB}$



Area of safe operation (ASO)

