2SD2180

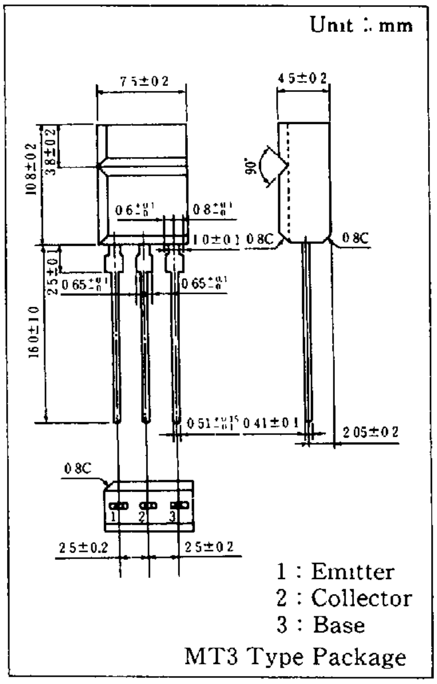
Silicon NPN Epitaxial Planar Type

AF Output Amplifier

■ Features

- Low collector-emitter saturation voltage ($V_{CE(sat)}$)
- High collector current (I_C)

■ Package Dimensions

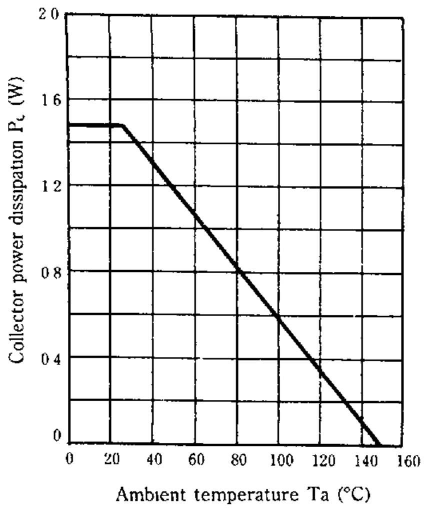


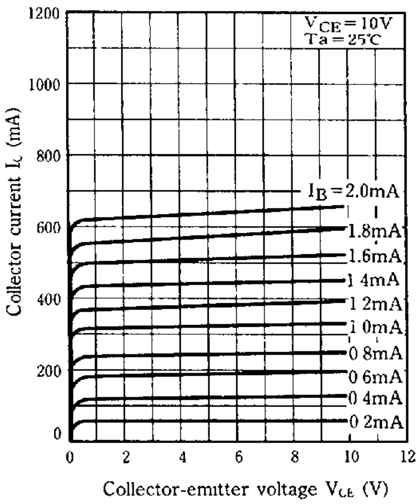
■ Absolute Maximum Ratings (Ta=25°C)

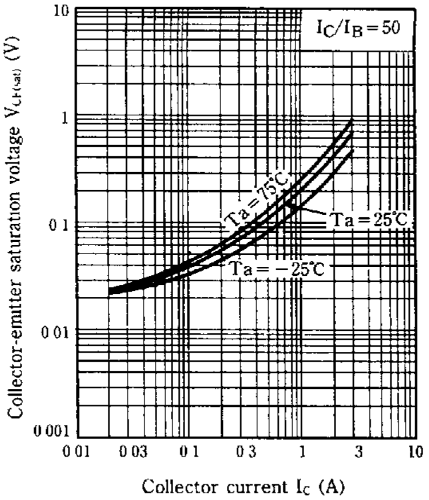
Item	Symbol	Value	Unit
Collector-base voltage	V_{CBO}	50	V
Collector-emitter voltage	V_{CEO}	50	V
Emitter-base voltage	V_{EBO}	5	V
Peak collector current	I_{CP}	7	A
Collector current	I_C	5	A
Collector power dissipation	P_C	1.5	W
Junction temperature	T_j	150	℃
Storage temperature	T_{stg}	−55～+150	℃

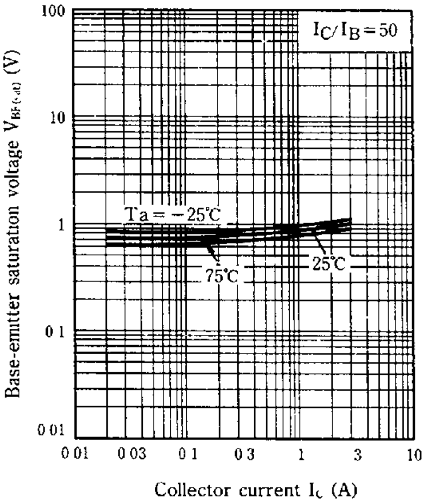
■ Electrical Characteristics (Tc=25°C)

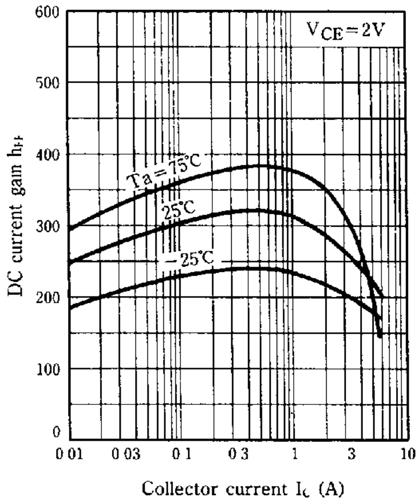
Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	$V_{CB}=20V, I_E=0$			0.1	μA
Collector-base voltage	V_{CBO}	$I_C=10\mu A, I_E=0$	50			V
Collector-emitter voltage	V_{CEO}	$I_C=1mA, I_B=0$	50			V
Emitter-base voltage	V_{EBO}	$I_E=10\mu A, I_C=0$	5			V
DC current gain	h_{FE1}	$V_{CE}=2V, I_C=500mA$	120		340	
	h_{FE2}	$V_{CE}=2V, I_C=2.5A$	80			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=2A, I_B=100mA$		0.2	0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=2A, I_B=100mA$		0.85	1.2	V
Transition frequency	f_T	$V_{CB}=10V, I_E=-50mA, f=200MHz$		80		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$		50	70	pF

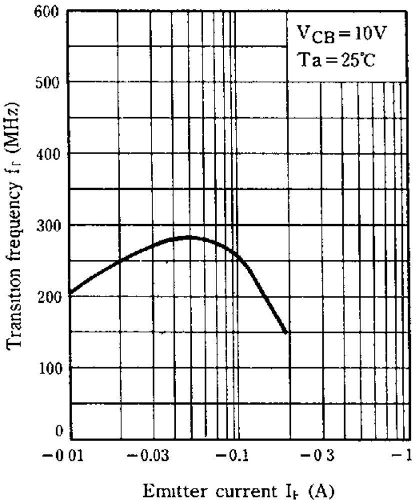

$P_C - T_a$

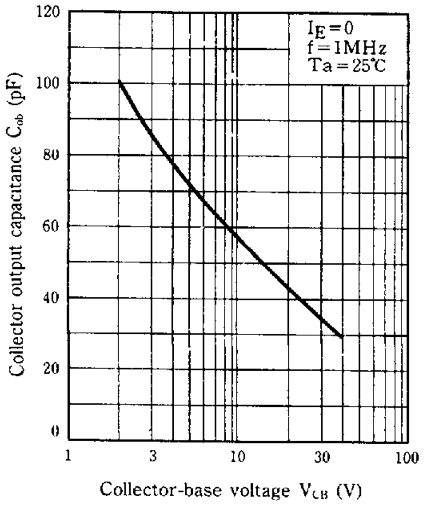

$I_C - V_{CE}$

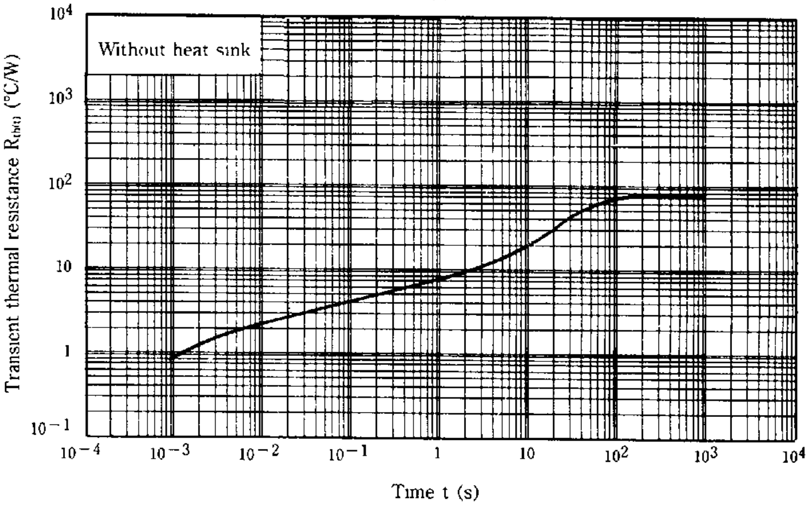

$V_{CE(sat)} - I_C$


$V_{BE(sat)} - I_C$


$h_{FE} - I_C$


$f_T - I_E$


$C_{ob} - V_{CB}$


$R_{th(t)} - t$