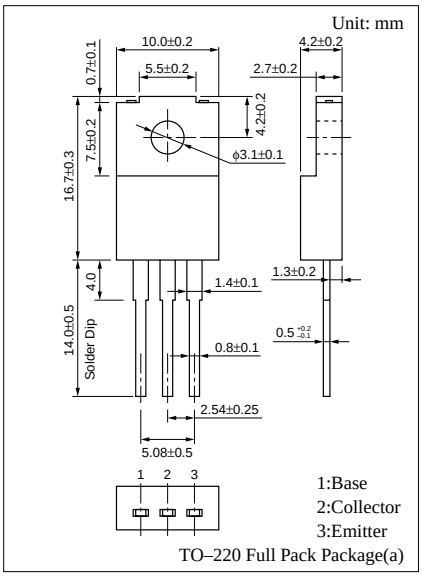
2SD1446

Silicon NPN triple diffusion planar type Darlington

For power amplification



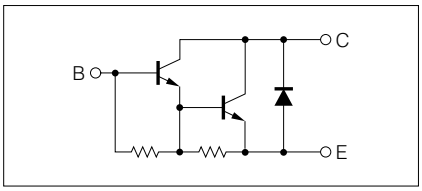
Features

- High foward current transfer ratio h_{FE}
- 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˚C)

Parameter		Symbol	Ratings	Unit
Collector to base voltage		V_{CBO}	500	V
Collector to emitter voltage		V_{CEO}	400	V
Emitter to base voltage		V_{EBO}	5	V
Peak collector current		I_{CP}	10	A
Collector current		I_C	6	A
Collector power dissipation	T_C=25°C	P_C	40	W
	Ta=25°C		2	
Junction temperature		T_j	150	˚C
Storage temperature		T_{stg}	–55 to +150	˚C

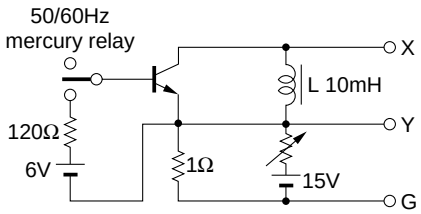
Internal Connection



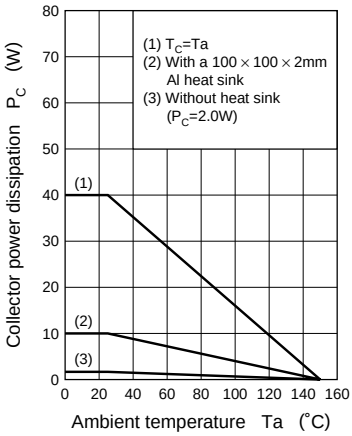
Electrical Characteristics (T_C=25˚C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 350V, I_E = 0			100	μA
Collector to emitter voltage	$V_{CEO(sus)}$*	I_C = 2A, L = 10mH	400			V
Emitter to base voltage	V_{EBO}	I_E = 0.1A, I_C = 0	5			V
Forward current transfer ratio	h_{FE}	V_{CE} = 2V, I_C = 2A	500			
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = 3A, I_B = 0.06A			1.5	V
Base to emitter saturation voltage	$V_{BE(sat)}$	I_C = 3A, I_B = 0.06A			2.5	V
Transition frequency	f_T	V_{CE} = 10V, I_C = 1A, f = 1MHz		15		MHz

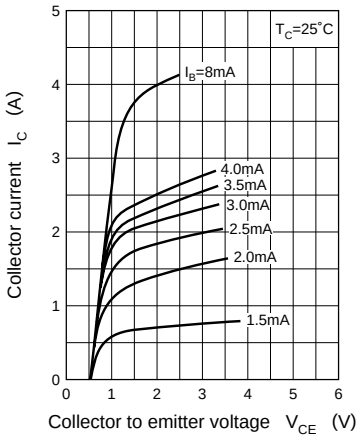
*$V_{CEO(sus)}$ Test circuit



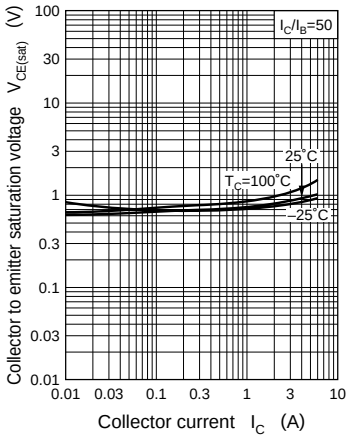
P_C — Ta



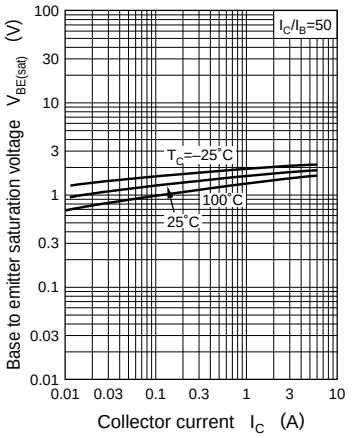
I_C — V_{CE}



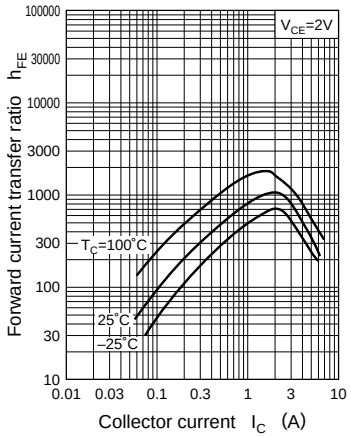
$V_{CE(sat)}$ — I_C



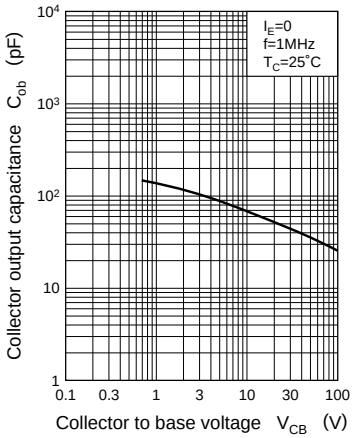
$V_{BE(sat)}$ — I_C



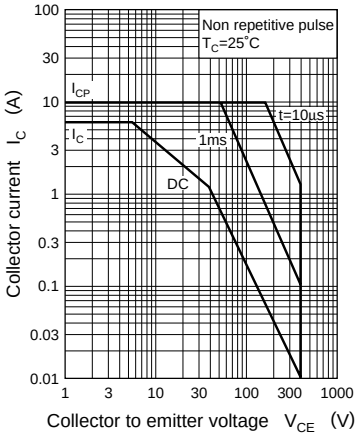
h_{FE} — I_C



C_{ob} — V_{CB}



Area of safe operation (ASO)



$R_{th(t)}$ — t