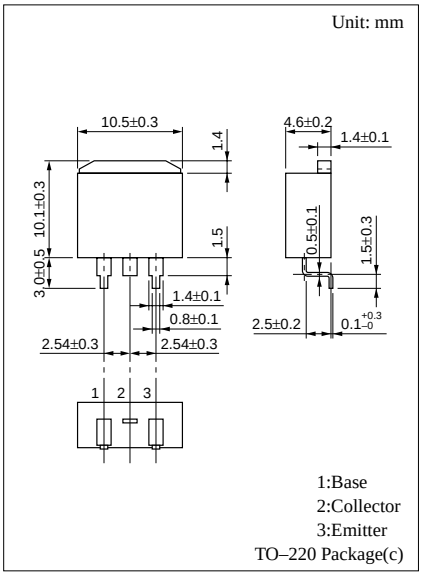
2SD2606

Silicon NPN diffusion planar type Darlington

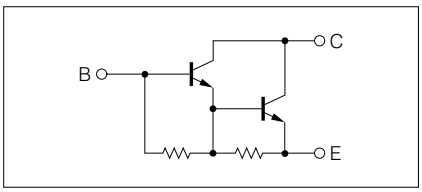
For power amplification



Features

- Extremely satisfactory linearity of the forward current transfer ratio h_{FE}
- High collector to base voltage V_{CBO}
- Wide area of safe operation (ASO)
- TO-220(c) type package enabling direct soldering of the radiating fin to the printed circuit board, etc. of small electronic equipment.

Internal Connection



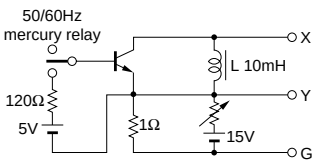
Absolute Maximum Ratings (T_C=25˚C)

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}	12	V
Peak collector current		I_{CP}	14	A
Collector current		I_C	7	A
Collector power dissipation	T_C=25°C	P_C	50	W
	Ta=25°C		1.4	
Junction temperature		T_j	150	˚C
Storage temperature		T_{stg}	–55 to +150	˚C

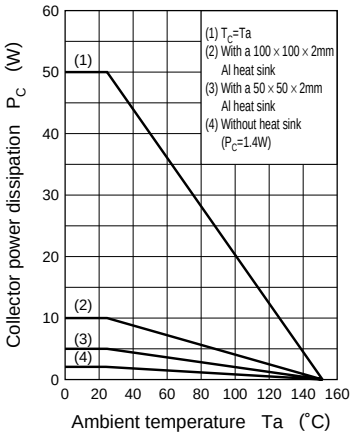
Electrical Characteristics (T_C=25˚C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 500V, I_E = 0			100	µA
	I_{CEO}	V_{CE} = 400V, I_E = 0			100	µA
Emitter cutoff current	I_{EBO}	V_{EB} = 12V, I_C = 0			100	mA
Collector to emitter voltage	$V_{CEO(sus)}$ *	I_C = 100mA, R_{BE} = ∞	400			V
Forward current transfer ratio	h_{FE1}	V_{CE} = 2V, I_C = 2A	500			
	h_{FE2}	V_{CE} = 2V, I_C = 6A	200			
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = 7A, I_B = 70mA			2.0	V
Base to emitter saturation voltage	$V_{BE(sat)}$	I_C = 7A, I_B = 70mA			2.5	V
Transition frequency	f_T	V_{CE} = 10V, I_C = 0.5A, f = 1MHz		20		MHz
Turn-on time	t_{on}	I_C = 7A, I_{B1} = 70mA, I_{B2} = –70mA, V_{CC} = 300V		1.5		µs
Storage time	t_{stg}			5.0		µs
Fall time	t_f			6.5		µs
Collector output capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f = 1MHz		70		pF

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



P_C — Ta



Area of safe operation (ASO)