

2SD1251, 2SD1251A

Silicon NPN triple diffusion junction type

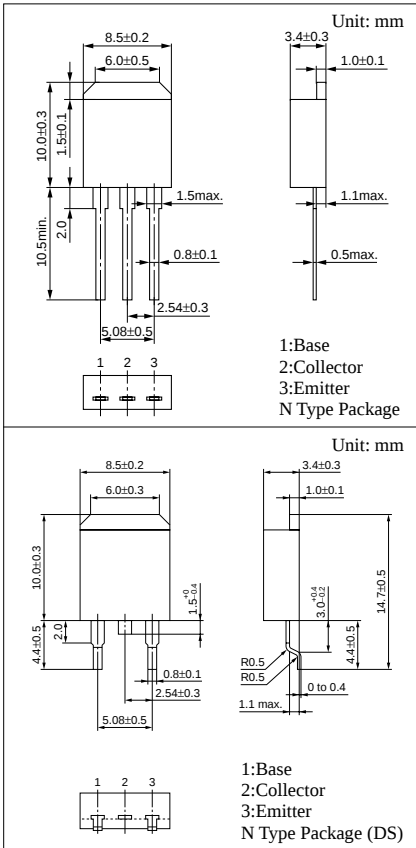
For power amplification

■ Features

- Wide area of safe operation (ASO)
- N type package enabling direct soldering of the radiating fin to the printed circuit board, etc. of small electronic equipment.

■ Absolute Maximum Ratings (T_C=25°C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V _{CBO}	60	V
Collector to emitter voltage	V _{CEO}	80	V
Emitter to base voltage	V _{EBO}	8	V
Peak collector current	I _{CP}	6	A
Collector current	I _C	4	A
Base current	I _B	1	A
Collector power dissipation	P _C	30	W
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-55 to +150	°C



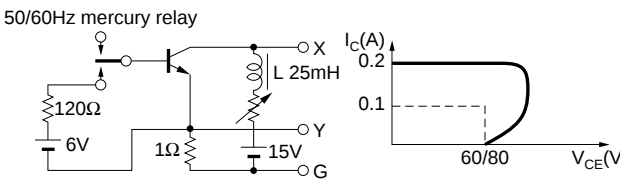
■ Electrical Characteristics (T_C=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I _{CBO}	V _{CB} = 20V, I _E = 0			30	μA
Emitter cutoff current	I _{EBO}	V _{EB} = 8V, I _C = 0			1	mA
Collector to emitter voltage	V _{CEO(sus)} ^{*2}	I _C = 0.2A, L = 25mH	60			V
Forward current transfer ratio	h _{FE1}	V _{CE} = 3V, I _C = 0.1A	40			
	h _{FE2} ^{*1}	V _{CE} = 3V, I _C = 1A	30		160	
Base to emitter voltage	V _{BE}	V _{CE} = 3V, I _C = 1A			1.2	V
Collector to emitter saturation voltage	V _{CE(sat)}	I _C = 2A, I _B = 0.4A			1	V
Transition frequency	f _T	V _{CE} = 10V, I _C = 0.2A, f = 0.5MHz		1		MHz

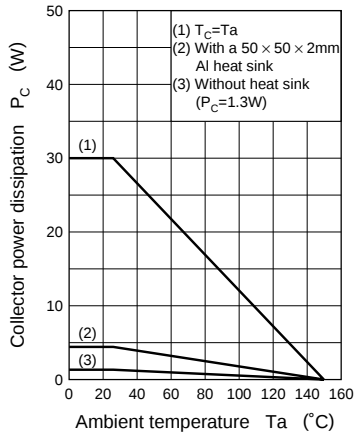
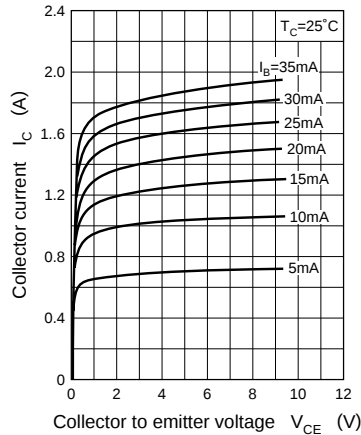
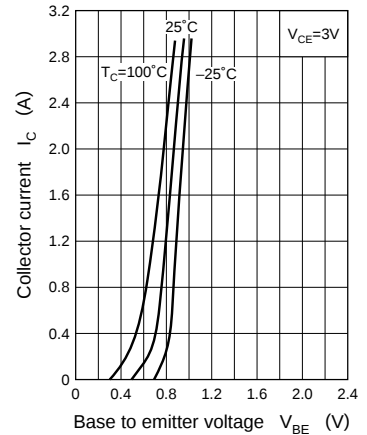
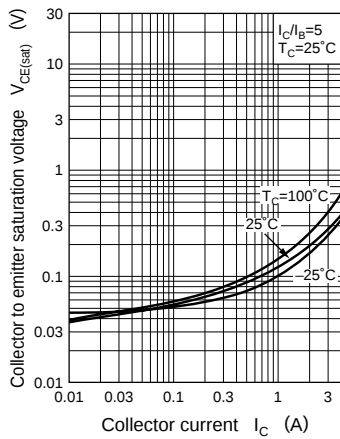
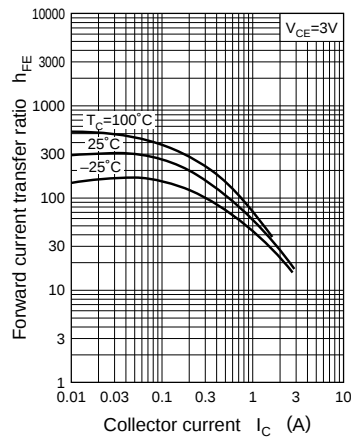
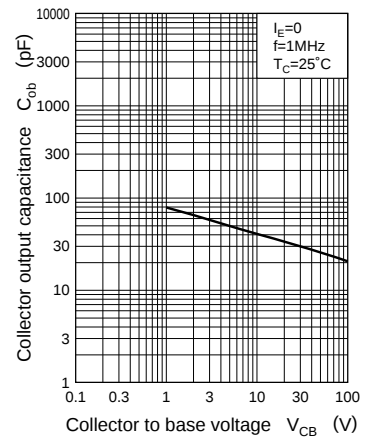
^{*1}h_{FE2} Rank classification

Rank	Q	P	O
h _{FE2}	30 to 60	50 to 100	80 to 160

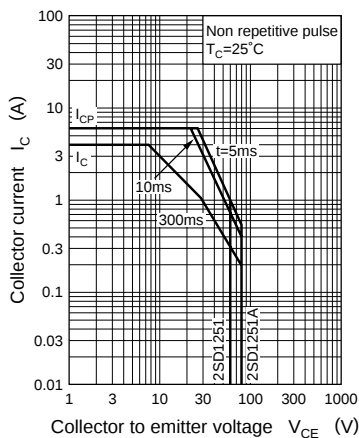
^{*2}V_{CEO(sus)} Test circuit



Note: Ordering can be made by the common rank (OP rank h_{FE2} = 50 to 160) in the rank classification.

$P_C - T_a$  $I_C - V_{CE}$  $I_C - V_{BE}$  $V_{CE(sat)} - I_C$  $h_{FE} - I_C$  $C_{ob} - V_{CB}$ 

Area of safe operation (ASO)

 $R_{th(t)} - t$ 