

2SD2057

Silicon NPN triple diffusion planar type

For horizontal deflection output

Features

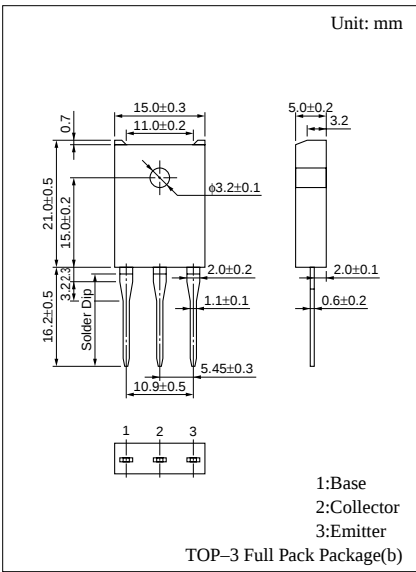
- Incorporating a built-in damper diode
- Reduction of a parts count and simplification of a circuit are allowed
- High breakdown voltage with high reliability
- High-speed switching
- Wide area of safe operation (ASO)
- Full-pack package which can be installed to the heat sink with one screw

Absolute Maximum Ratings (T_C=25°C)

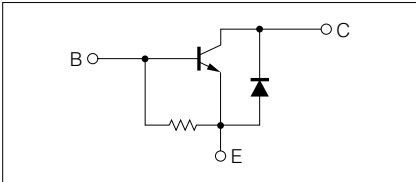
Parameter	Symbol	Ratings	Unit
Collector to base voltage	V _{CBO}	1500	V
Collector to emitter voltage	V _{CES}	1500	V
Emitter to base voltage	V _{EBO}	7	V
Peak collector current	I _{CP}	20	A
Collector current	I _C	5	A
Base current	I _B	4	A
Collector power dissipation	P _C	100	W
		3	
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

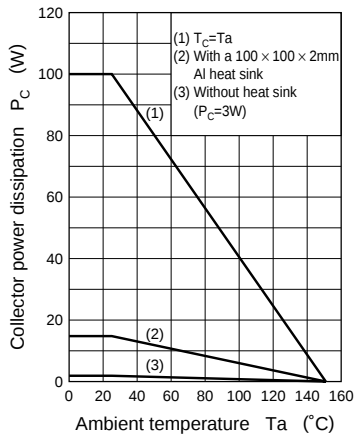
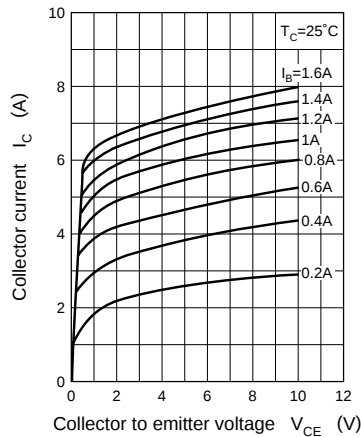
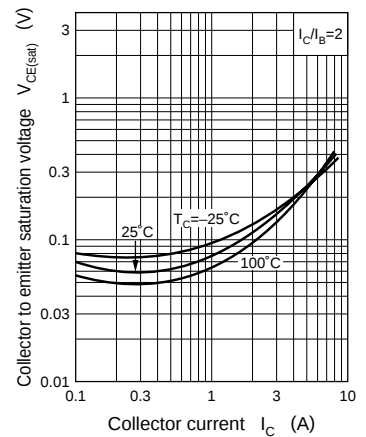
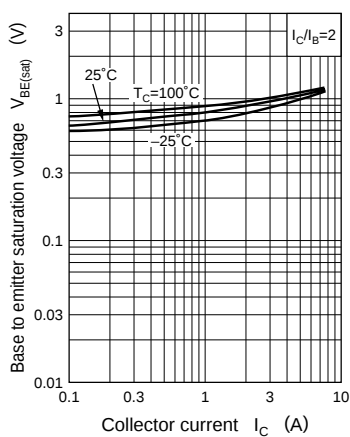
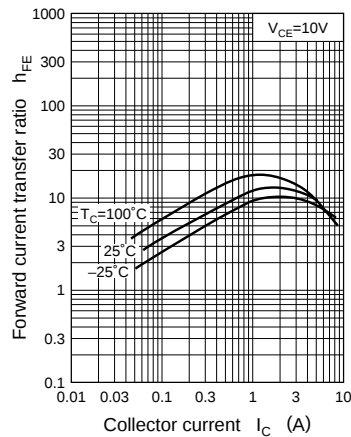
Electrical Characteristics (T_C=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I _{CBO}	V _{CB} = 1000V, I _E = 0			30	μA
		V _{CB} = 1500V, I _E = 0			300	μA
Emitter to base voltage	V _{EBO}	I _E = 500mA, I _C = 0	7			V
Forward current transfer ratio	h _{FE}	V _{CE} = 10V, I _C = 5A	4.5		15	
Collector to emitter saturation voltage	V _{CE(sat)}	I _C = 5A, I _B = 1.2A			8	V
Base to emitter saturation voltage	V _{BE(sat)}	I _C = 5A, I _B = 1.2A			1.5	V
Transition frequency	f _T	V _{CE} = 10V, I _C = 1A, f = 0.5MHz		2		MHz
Storage time (L-load)	t _{stg}	I _C = 5A, I _{B1} = 1.2A, I _{B2} = -1.2A,			12	μs
Fall time (L-load)	t _f	L _{leak} = 5μH			0.8	μs
Diode forward voltage	V _F	I _C = -6A, I _B = 0			-2.3	V

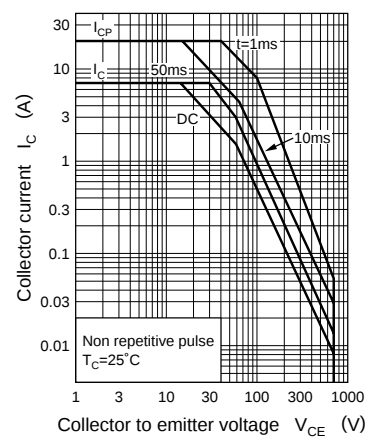


Internal Connection

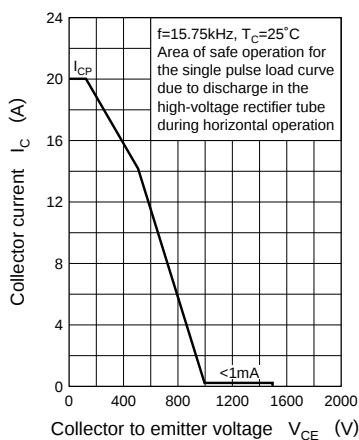


$P_C - T_a$  $I_C - V_{CE}$  $V_{CE(sat)} - I_C$  $V_{BE(sat)} - I_C$  $h_{FE} - I_C$ 

Area of safe operation (ASO)



Area of safe operation, horizontal operation ASO

 $R_{th(t)} - t$ 