

2SD1326

Silicon NPN triple diffusion planar type Darlington

For midium speed power switching

Features

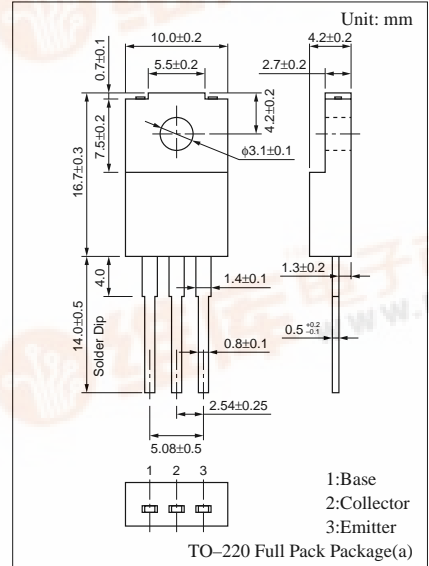
- Incorporating a zener diode of 60V zener voltage between collector and base
- Minimized variation in the breakdown voltage
- Large energy handling capability
- High-speed switching
- Full-pack package which can be installed to the heat sink with one screw

Absolute Maximum Ratings (T_C=25°C)

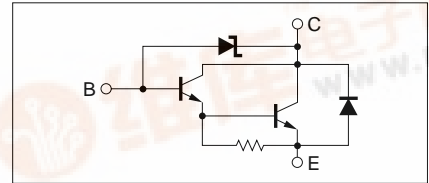
Parameter	Symbol	Ratings	Unit
Collector to base voltage	V _{CBO}	60±10	V
Collector to emitter voltage	V _{CEO}	60±10	V
Emitter to base voltage	V _{EBO}	5	V
Peak collector current	I _{CP}	8	A
Collector current	I _C	4	A
Collector power dissipation	P _C	T _C =25°C	40
		T _a =25°C	2
Junction temperature	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} = 50V, I _E = 0			100	μA	
Emitter cutoff current	I _{EBO}	V _{EB} = 5V, I _C = 0			2	mA	
Collector to emitter voltage	V _{CEO}	I _C = 5mA, I _B = 0	50		70	V	
Forward current transfer ratio	h _{FE1}	V _{CE} = 3V, I _C = 0.5A	1000				
	h _{FE2} ^{*1}	V _{CE} = 3V, I _C = 3A	2000		10000		
Collector to emitter saturation voltage	V _{CE(sat)}	I _C = 3A, I _B = 12mA			2.5	V	
		I _C = 5A, I _B = 20mA			4		
Base to emitter saturation voltage	V _{BE(sat)}	I _C = 3A, I _B = 12mA			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 = 3A, I _{B1} = 12mA, I _{B2} = -12mA, V _{CC} = 50V		0.3		μs	
Storage time	t _{stg}				3		μs
Fall time	t _f				1		μs
Energy handling capability	E _{s/b} ^{*2}	I _C = 2A, L = 100mH, R _{BE} = 100Ω	50			mJ	



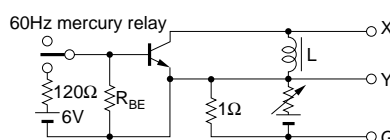
Internal Connection



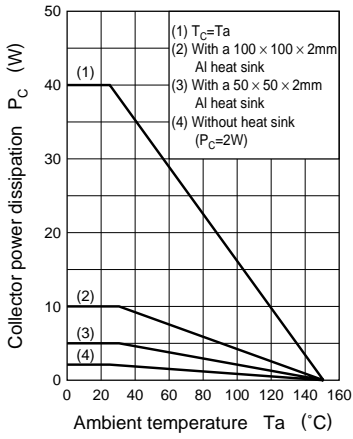
^{*1}h_{FE2} Rank classification

Rank	Q	P
Rank	2000 to 5000	4000 to 10000

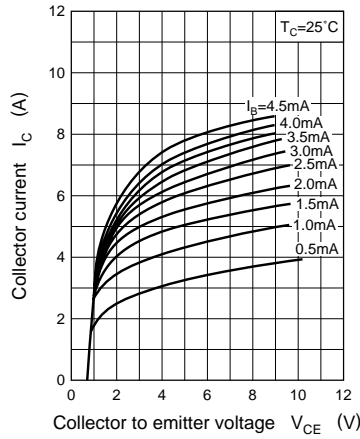
^{*2}E_{s/b} Test circuit



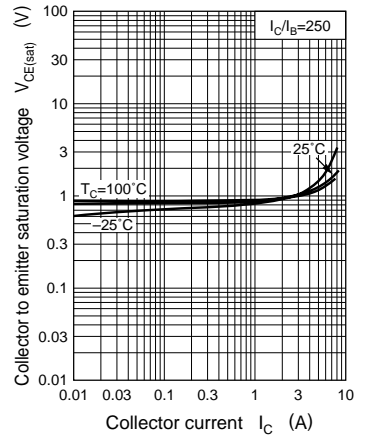
$P_C - T_a$



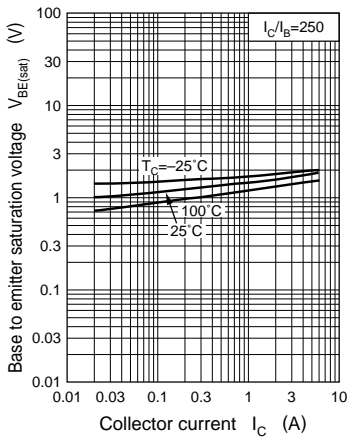
$I_C - V_{CE}$



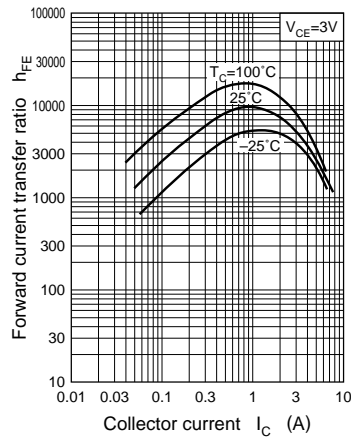
$V_{CE(sat)} - I_C$



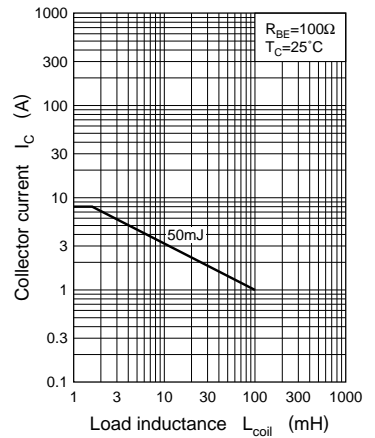
$V_{BE(sat)} - I_C$



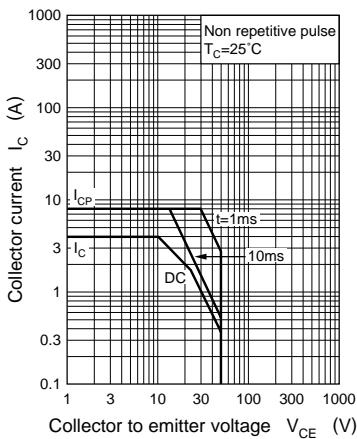
$h_{FE} - I_C$



$I_C - L_{coil}$



Area of safe operation (ASO)



$R_{th(t)} - t$

