

2SC4528

Silicon NPN Triple-Diffused Planar Darlington Type

High Power Switching

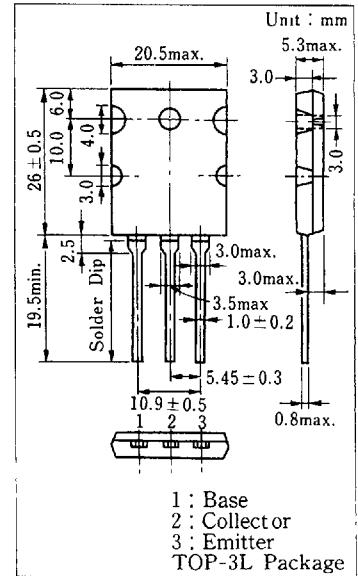
■ Features

- High speed switching
- High collector-base voltage (V_{CB0})
- Wide area of safety operation (ASO)
- Good linearity of DC current gain (h_{FE})

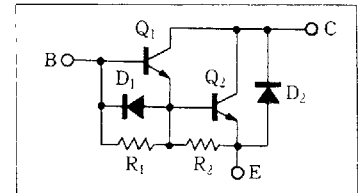
■ Absolute Maximum Ratings ($T_c=25^\circ\text{C}$)

Item	Symbol	Value	Unit
Collector-base voltage	V_{CB0}	1500	V
Collector-emitter voltage	V_{CEO}	500	V
Emitter-base voltage	V_{EBO}	7	V
Peak collector current	I_{CP}	20	A
Collector current	I_C	10	A
Collector power dissipation	$T_c=25^\circ\text{C}$	150	W
	$T_a=25^\circ\text{C}$	3.5	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 ~ +150	$^\circ\text{C}$

■ Package Dimensions



■ Inner Circuit

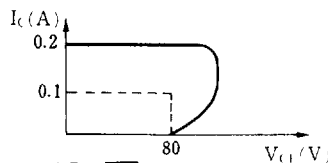
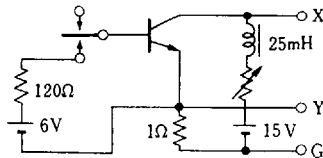


■ Electrical Characteristics ($T_c=25^\circ\text{C}$)

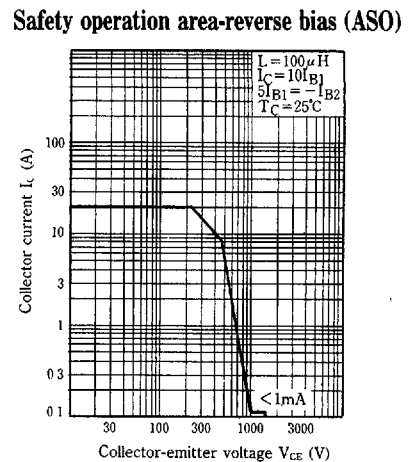
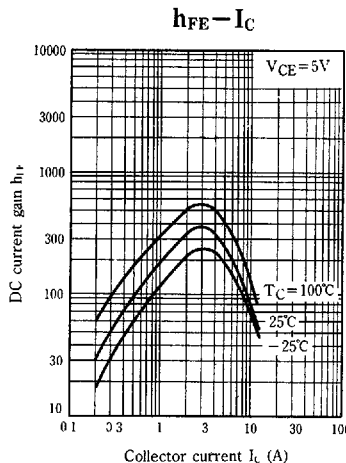
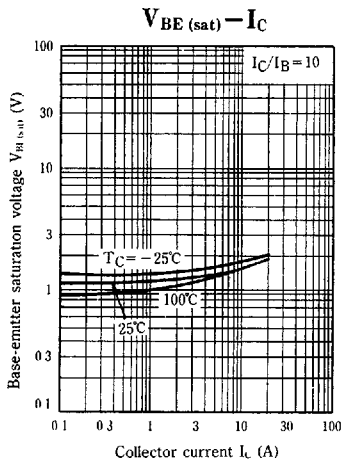
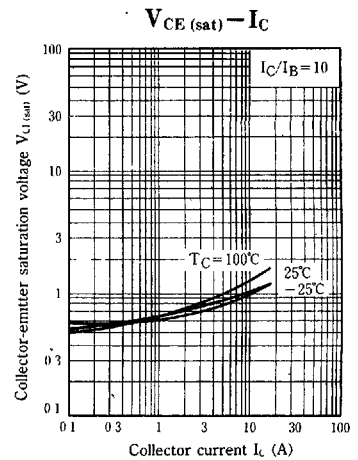
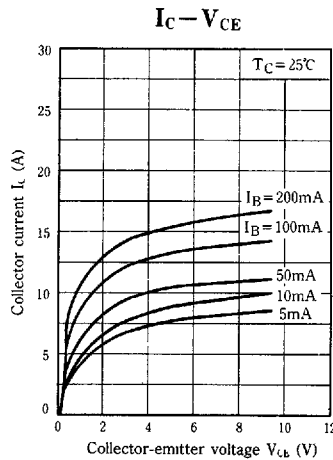
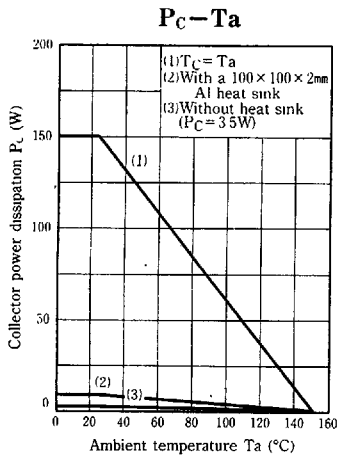
Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	$V_{CB}=1500\text{V}, I_E=0$			1	mA
Emitter cutoff current	I_{EBO}	$V_{EB}=7\text{V}, I_C=0$			500	mA
Collector-emitter voltage	$V_{CEO(sus)}$	$I_C=0.25\text{A}, L=25\text{mH}$	500			V
DC current gain	h_{FE}	$V_{CE}=5\text{V}, I_C=10\text{A}$	50		250	
Collector-emitter saturation voltage	$V_{CF(sat)}$	$I_C=10\text{A}, I_B=1\text{A}$			2.0	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=10\text{A}, I_B=1\text{A}$			2.5	V
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=0.5\text{A}, f=1\text{MHz}$		5		MHz
Turn-on time	t_{on}	$I_C=10\text{A}$			4.0	μs
Storage time	t_{stg}	$I_{B1}=1\text{A}, I_{B2}=-5\text{A}$			5.5	μs
Collector current fall time	t_f	$V_{CC}=200\text{V}$			4.0	μs
Diode forward voltage	V_F	$I_C=-10\text{A}, I_B=0$			2	V

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

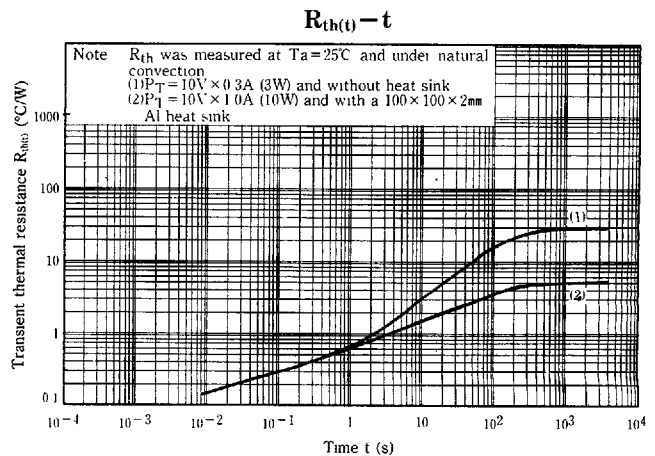
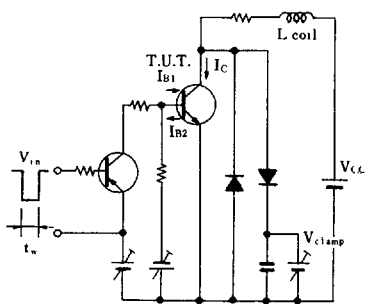
Mercury relay 50/60Hz



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Measurement circuit of reverse bias ASO



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