2SB1504

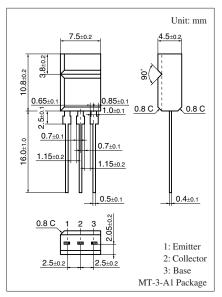
Silicon PNP epitaxial planar type darlington

For power switching

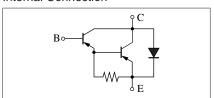
- High forward current transfer ratio hFE
- High-speed switching
- Allowing automatic insertion with radial taping

■ Absolute Maximum Ratings $T_a = 25$ °C

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V _{CBO}	-50	V
Collector-emitter voltage (Base open)	V _{CEO}	-50	V
Emitter-base voltage (Collector open)	V_{EBO}	-7	V
Collector current	I_C	-8	A
Peak collector current	I_{CP}	-12	A
Collector power dissipation	P _C	1.5	W
Junction temperature	T_{j}	150	°C
Storage temperature	T_{stg}	-55 to +150	°C



Internal Connection



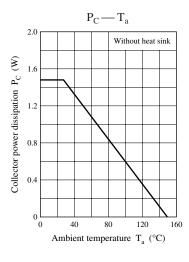
■ Electrical Characteristics $T_a = 25$ °C ± 3 °C

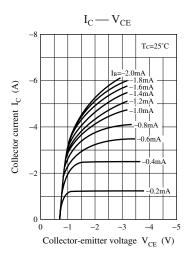
Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Collector-emitter voltage (Base open)	V _{CEO}	$I_C = -30 \text{ mA}, I_B = 0$	-50			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = -50 \text{ V}, I_E = 0$			-100	μΑ
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = -7 \text{ V}, I_C = 0$			-2	mA
Forward current transfer ratio	h _{FE1} *	$V_{CE} = -3 \text{ V}, I_{C} = -4 \text{ A}$	1 000		10 000	_
	h _{FE2}	$V_{CE} = -3 \text{ V}, I_{C} = -8 \text{ A}$	500			
Collector-emitter saturation voltage	V _{CE(sat)}	$I_C = -4 \text{ A}, I_B = -8 \text{ mA}$			-1.5	V
Base-emitter saturation voltage	V _{BE(sat)}	$I_C = -4 \text{ A}, I_B = -8 \text{ mA}$			-2.0	V
Transition frequency	f_T	$V_{CB} = -10 \text{ V}, I_E = 0.5 \text{ A}, f = 200 \text{ MHz}$		20		MHz
Turn-on time	t _{on}	$I_C = -4 \text{ A}, I_{B1} = -8 \text{ mA}, I_{B2} = 8 \text{ mA}$		0.5		μs
Storage time	t _{stg}	$V_{CC} = -50 \text{ V}$		2.0		μs
Fall time	t_{f}			1.0		μs

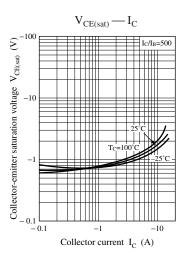
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

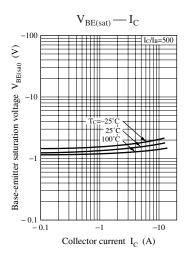
2. *: Rank classification

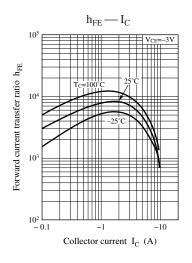
Rank	Р	Q	R
h _{FE1}	1000 to 2500	2000 to 5000	4000 to 10000

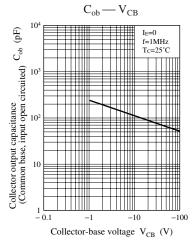


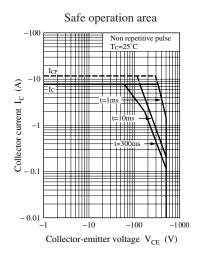


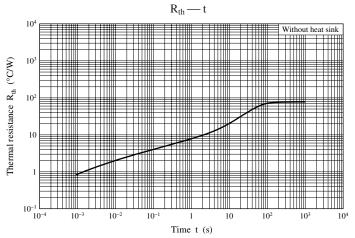












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