2SB1504

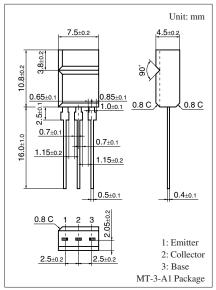
Silicon PNP epitaxial planar type darlington

For power switching

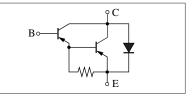
- \bullet High forward current transfer ratio h_{FE}
- High-speed switching
- Allowing automatic insertion with radial taping

Absolute Maximum Ratings $T_a = 25^{\circ}C$

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	А
Peak collector current	I _{CP}	-12	А
Collector power dissipation	P _C	1.5	W
Junction temperature	Tj	150	°C
Storage temperature	T _{stg}	-55 to +150	°C



Internal Connection



Parameter	Symbol	Conditions		Тур	Max	Unit
Collector-emitter voltage (Base open)	V _{CEO}	$I_{\rm C} = -30 \text{ mA}, I_{\rm B} = 0$	-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}	$V_{EB} = -7 V, I_C = 0$			-2	mA
Forward current transfer ratio	h _{FE1} *	$V_{CE} = -3 V, I_C = -4 A$	1 0 0 0		10 000	_
	h _{FE2}	$V_{CE} = -3 V, I_C = -8 A$	500			
Collector-emitter saturation voltage	V _{CE(sat)}	$I_{C} = -4 A, I_{B} = -8 mA$			-1.5	V
Base-emitter saturation voltage	V _{BE(sat)}	$I_{C} = -4 A, I_{B} = -8 mA$			-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	ton	$I_{C} = -4 A, I_{B1} = -8 mA, I_{B2} = 8 mA$		0.5		μs
Storage time	t _{stg}	$V_{CC} = -50 \text{ V}$		2.0		μs
Fall time	t _f			1.0		μs

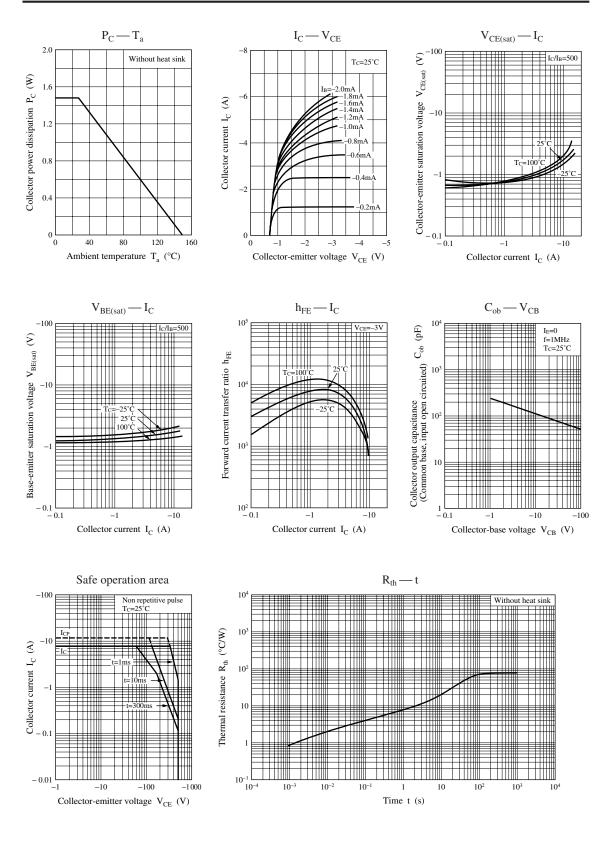
Electrical Characteristics $T_a = 25^{\circ}C \pm 3^{\circ}C$

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

Panasonic



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