DSC7Q01

Silicon NPN epitaxial planar type darlington

For low frequency output amplification
Darlington connection
DSC8Q01 in MiniP3 type package

■ Features

- High forward current transfer ratio h_{FE} with excellent linearity
- Low collector-emitter saturation voltage $V_{CE(sat)}$
- Contributes to miniaturization of sets, reduction of component count.
- Eco-friendly Halogen-free package

■ Packaging

DSC7Q01×0L Embossed type (Thermo-compression sealing): 1000 pcs / reel (standard)

■ Absolute Maximum Ratings $T_a = 25°C$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	100	V
Collector-emitter voltage (Base open)	V_{CEO}	80	V
Emitter-base voltage (Collector open)	V_{EBO}	5	V
Collector current	I_C	1	A
Peak collector current	I_{CP}	1.5	A
Collector power dissipation	P_C	1	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	–55 to +150	°C

Note) Printed circuit board: Copper foil area of 1 cm^2 or more, and the board thickness of 1.7 mm for the collector portion
Absolute maximum rating without heat sink for P_C is 0.5 W

■ Package

- Code

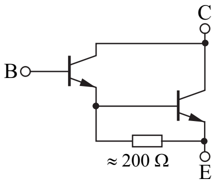
MiniP3-F2-B

Package dimension clicks here.→ Click!

- Pin Name

1. Base
2. Collector
3. Emitter

■ Marking Symbol: 5K



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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = 100\ \mu A, I_E = 0$	100			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = 1\ mA, I_B = 0$	80			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 100\ \mu A, I_C = 0$	5			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 25\ V, I_E = 0$			0.1	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = 4\ V, I_C = 0$			0.1	μA
Forward current transfer ratio *1, 2	h_{FE}	$V_{CE} = 10\ V, I_C = 1\ A$	4000		40000	—
Collector-emitter saturation voltage *1	$V_{CE(sat)}$	$I_C = 1\ A, I_B = 1\ mA$			1.8	V
Base-emitter saturation voltage *1	$V_{BE(sat)}$	$I_C = 1\ A, I_B = 1\ mA$			2.2	V

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. *1: Pulse measurement
*2: Rank classification

Code	Q	R	S	0
Rank	Q	R	S	No-rank
h_{FE}	4000 to 10000	8000 to 20000	16000 to 40000	4000 to 40000
Marking Symbol	5KQ	5KR	5KS	5K

Product of no-rank is not classified and have no marking symbol for rank.

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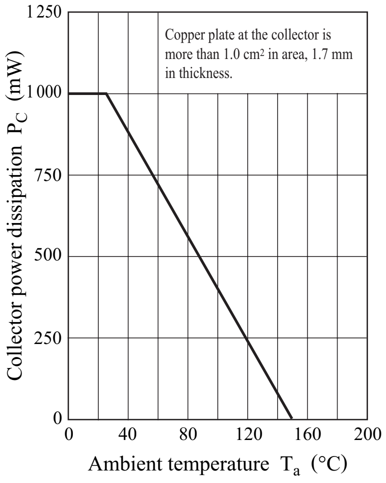
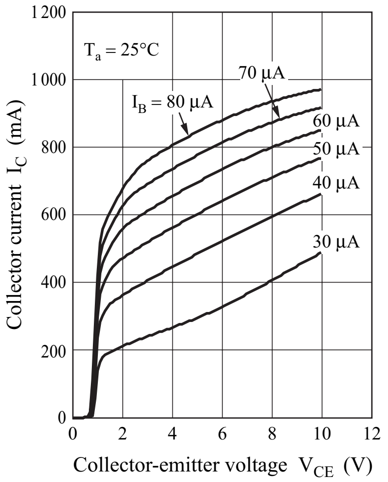
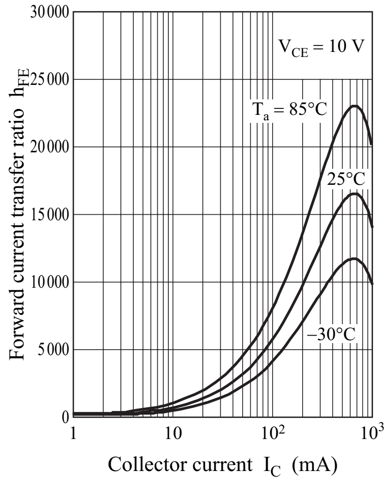
Ver. CED



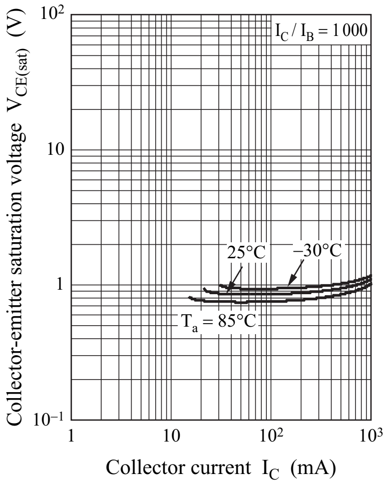
P_C — T_a



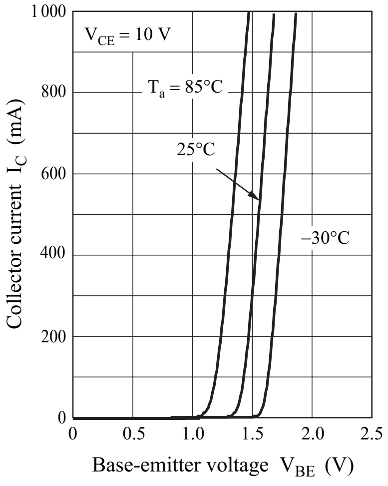
I_C — V_{CE}



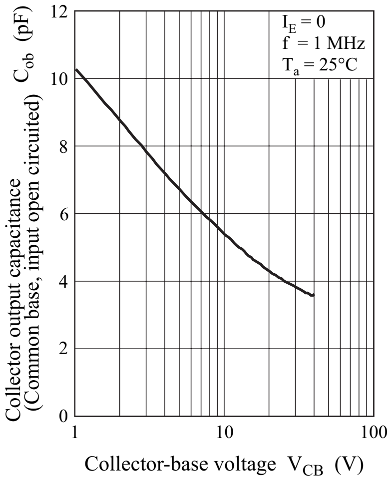
h_{FE} — I_C



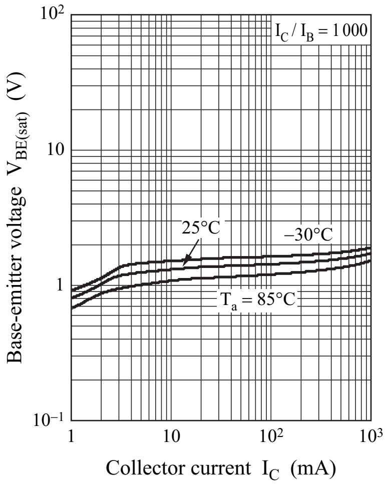
$V_{CE(sat)}$ — I_C



I_C — V_{BE}



C_{ob} — V_{CB}



$V_{BE(sat)}$ — I_C

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