

# DSC7Q01

## Silicon NPN epitaxial planar type darlington

For low frequency output amplification

Darlington connection

DSC8Q01 in MiniP3 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 $T_a = 25^\circ\text{C}$

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	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

Note) Printed circuit board: Copper foil area of 1 cm<sup>2</sup> 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

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

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

### ■ Package

#### • Code

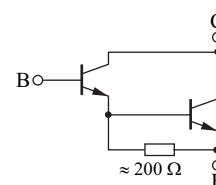
MiniP3-F2-B

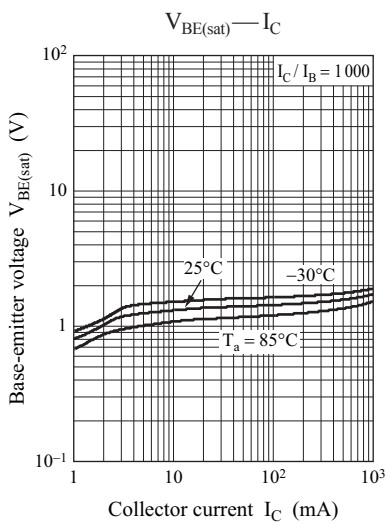
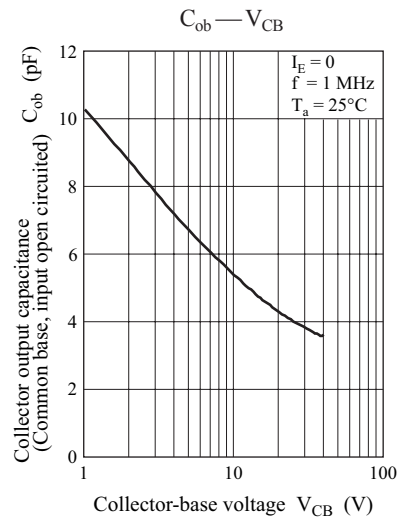
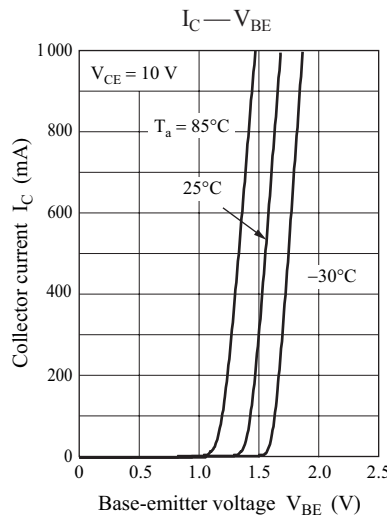
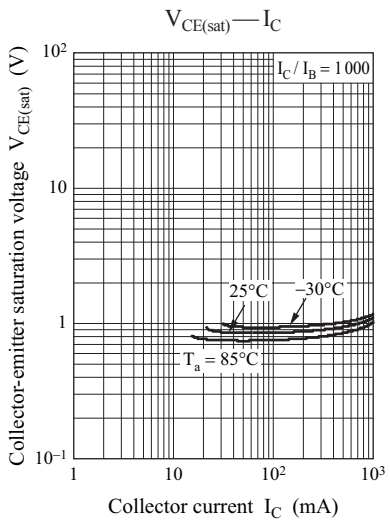
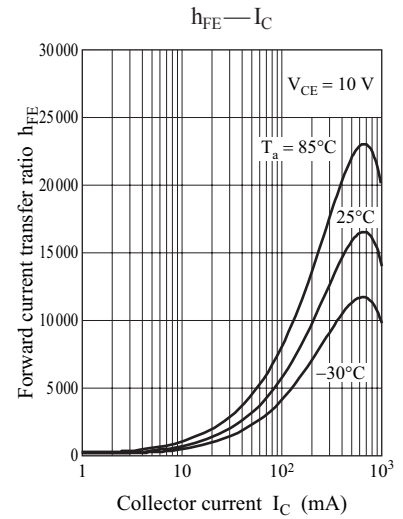
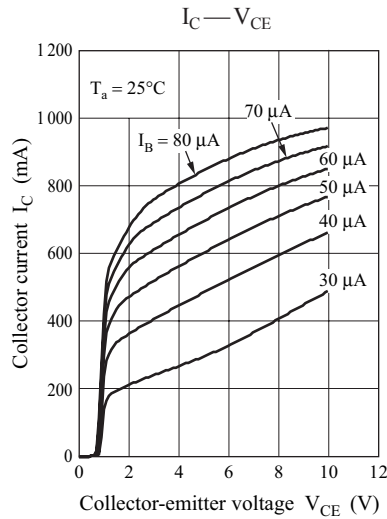
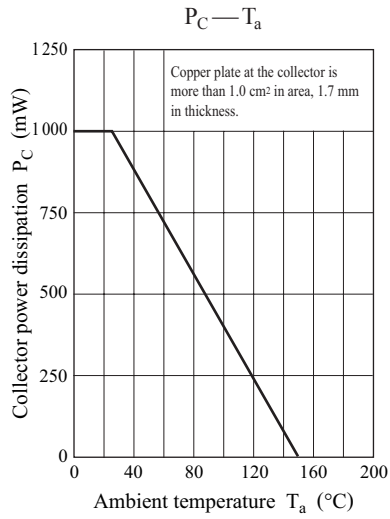
Package dimension clicks here.→

#### • Pin Name

1. Base
2. Collector
3. Emitter

### ■ Marking Symbol: 5K





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