

# DMC50501

## Silicon NPN epitaxial planar type

For general amplification  
DMC20501 in SMini6 type package

## ■ Features

- High forward current transfer ratio  $h_{FE}$  with excellent linearity
- Low collector-emitter saturation voltage  $V_{CE(sat)}$
- Halogen-free / RoHS compliant  
(EU RoHS / UL-94 V-0 / MSL: Level 1 compliant)

■ Marking Symbol: B0

## ■ Basic Part Number

### Dual DSC2001 (Individual)

## ■ Packaging

DMC505010R Embossed type (Thermo-compression sealing): 3 000 pcs / reel (standard)

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

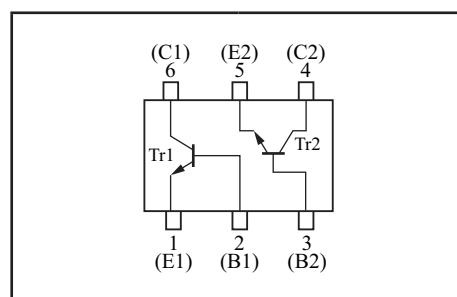
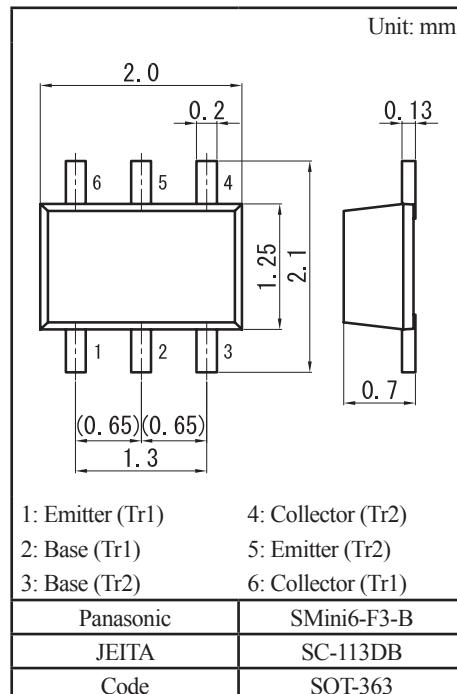
Parameter		Symbol	Rating	Unit
Tr1 Tr2	Collector-base voltage (Emitter open)	$V_{CBO}$	60	V
	Collector-emitter voltage (Base open)	$V_{CEO}$	50	V
	Emitter-base voltage (Collector open)	$V_{EBO}$	7	V
	Collector current	$I_C$	100	mA
	Peak collector current	$I_{CP}$	200	mA
Overall	Total power dissipation	$P_T$	150	mW
	Junction temperature	$T_j$	150	°C
	Operating ambient temperature	$T_{opr}$	-40 to +85	°C
	Storage temperature	$T_{stg}$	-55 to +150	°C

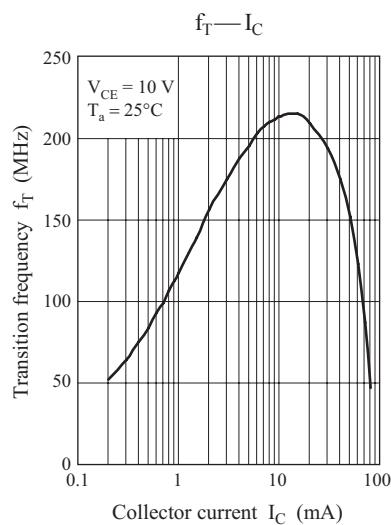
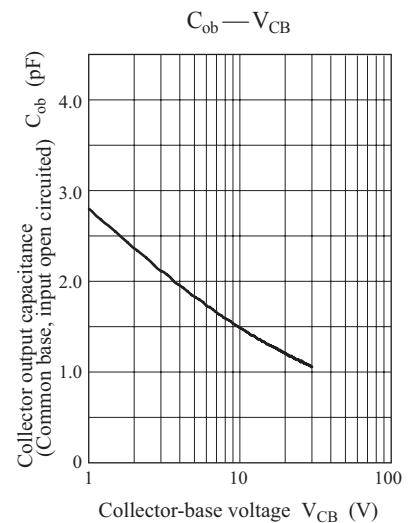
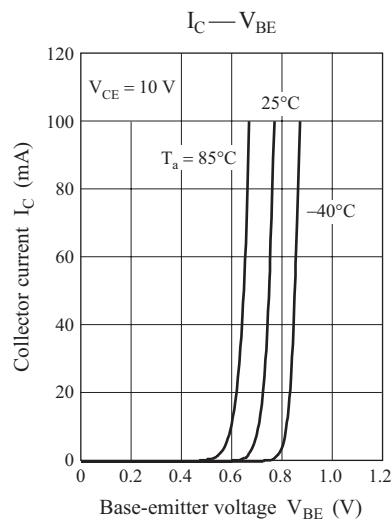
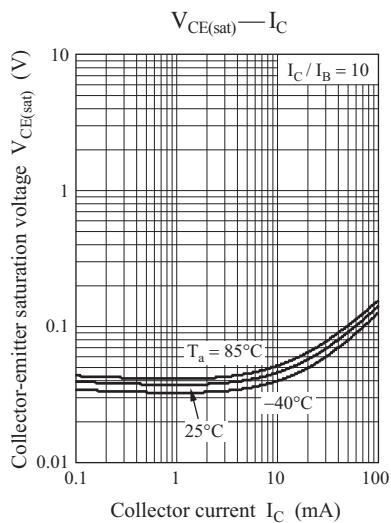
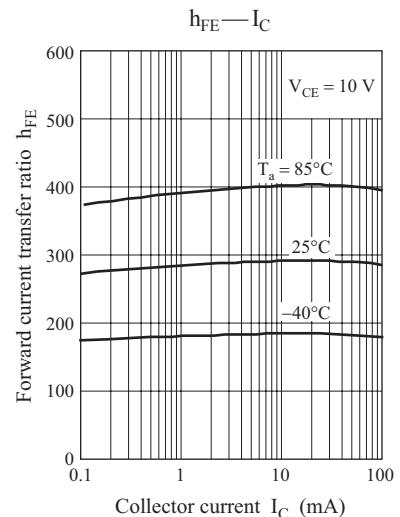
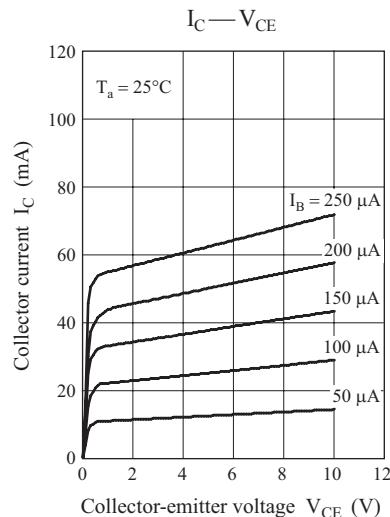
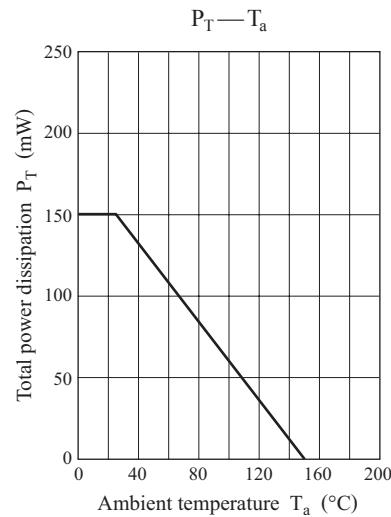
### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	$I_C = 10 \mu A, I_E = 0$	60			V
Collector-emitter voltage (Base open)	$V_{CEO}$	$I_C = 2 mA, I_B = 0$	50			V
Emitter-base voltage (Collector open)	$V_{EBO}$	$I_E = 10 \mu A, I_C = 0$	7			V
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = 20 V, I_E = 0$			0.1	$\mu A$
Collector-emitter cutoff current (Base open)	$I_{CEO}$	$V_{CE} = 10 V, I_B = 0$			100	$\mu A$
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 10 V, I_C = 2 mA$	210		460	—
$h_{FE}$ ratio *1	$h_{FE}$ (Small/Large)	$V_{CE} = 10 V, I_C = 2 mA$	0.50	0.99		—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100 mA, I_B = 10 mA$		0.13	0.3	V
Transition frequency	$f_T$	$V_{CE} = 10 V, I_C = 2 mA$		150		MHz
Collector output capacitance (Common base, input open circuited)	$C_{ob}$	$V_{CB} = 10 V, I_E = 0, f = 1 MHz$		1.5		pF

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

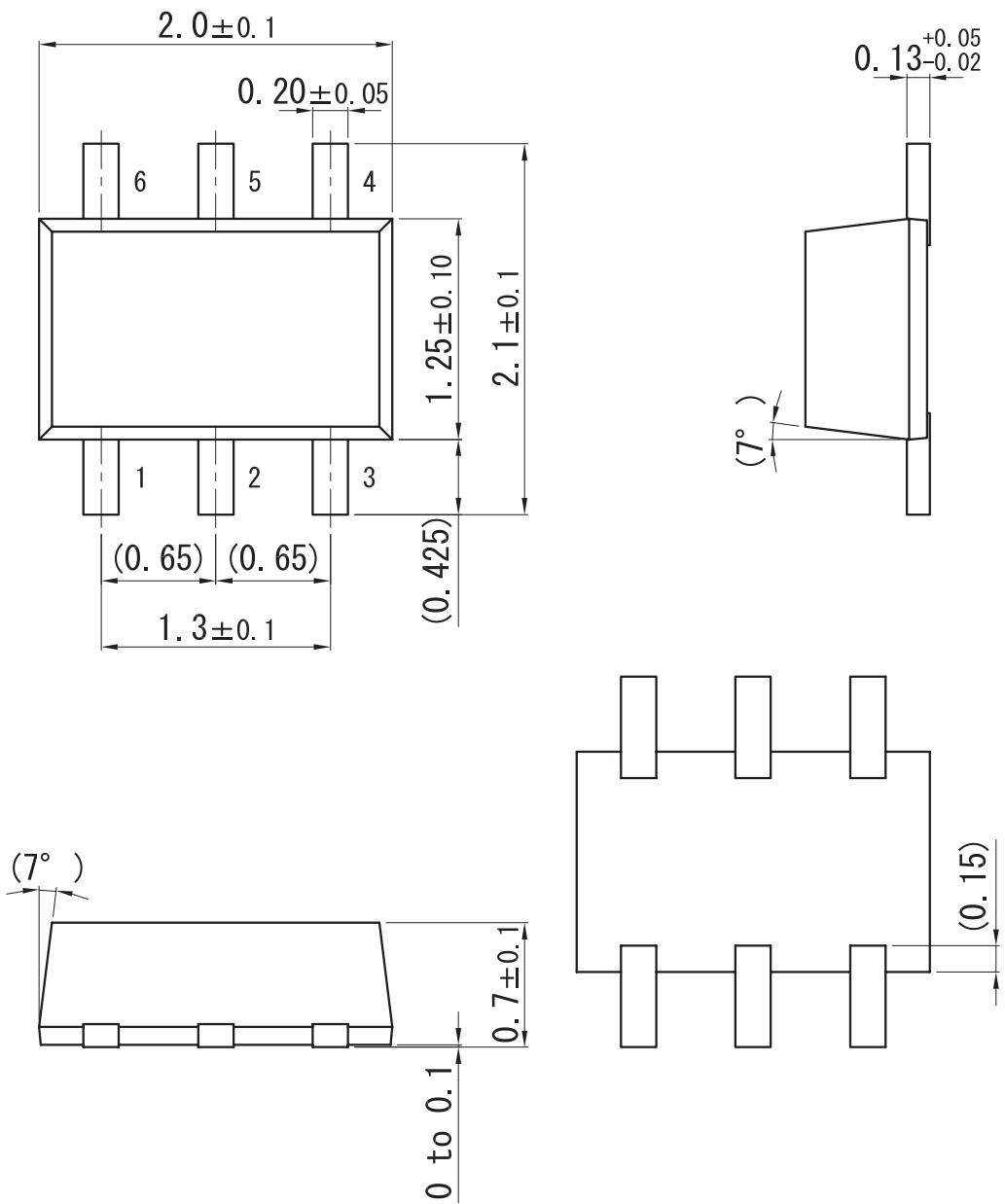
## 2. \*1: Ratio between 2 elements



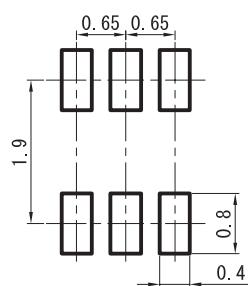


## SMini6-F3-B

Unit: mm



## ■ Land Pattern (Reference) (Unit: mm)



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