

# DMC505E0

## Silicon NPN epitaxial planar type

For High frequency amplification  
DMC205E0 in SMini6 type package

### ■ Features

- High transition frequency  $f_T$
- Contributes to miniaturization of sets, reduction of component count.
- Eco-friendly Halogen-free package

### ■ Basic Part Number

Dual DSC2F01X (Common Emitter)

### ■ Packaging

MDC505E00R Embossed type (Thermo-compression sealing): 3000 pcs / reel (standard)

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	15	V
Collector-emitter voltage (Base open)	$V_{CEO}$	10	V
Emitter-base voltage (Collector open)	$V_{EBO}$	3	V
Collector current	$I_C$	50	mA
Total power dissipation	$P_T$	150	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	$V_{CEO}$	$I_C = 2 \text{ mA}, I_B = 0$	10			V
Emitter-base voltage (Collector open)	$V_{EBO}$	$I_E = 10 \mu\text{A}, I_C = 0$	3			V
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = 10 \text{ V}, I_E = 0$			1	$\mu\text{A}$
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 4 \text{ V}, I_C = 5 \text{ mA}$	75		220	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 20 \text{ mA}, I_B = 4 \text{ mA}$			0.5	V
Transition frequency	$f_T$	$V_{CE} = 4 \text{ V}, I_C = 5 \text{ mA}$		1.9		GHz
Collector output capacitance (Common base, input open circuited)	$C_{ob}$	$V_{CB} = 4 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		1.2		pF
Collector-base parameter	$r_{bb'} \cdot C_C$	$V_{CE} = 4 \text{ V}, I_C = 5 \text{ mA}, f = 31.9 \text{ MHz}$		12		ps
Reverse transfer capacitance (Common base)	$C_{rb}$	$V_{CE} = 4 \text{ V}, I_C = 0, f = 1 \text{ MHz}$		0.6		pF

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

### ■ Package

#### • Code

SMini6-F3-B

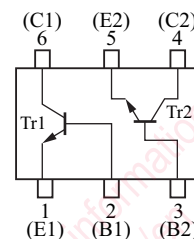
Package dimension clicks here.→

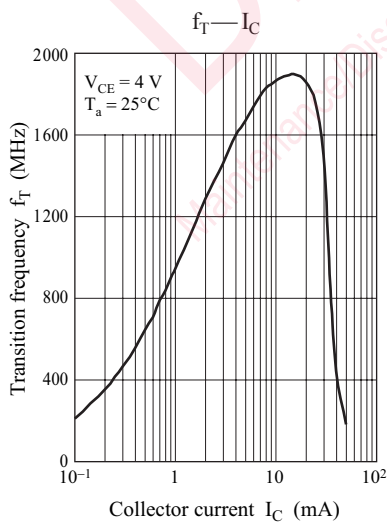
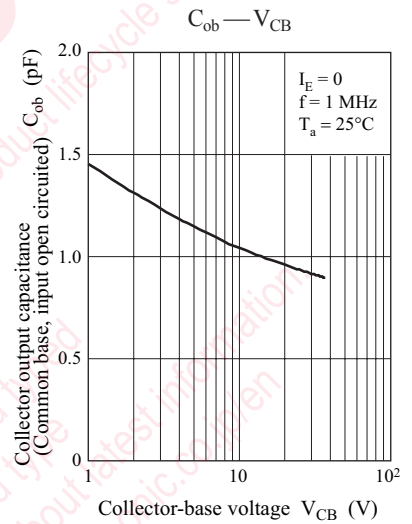
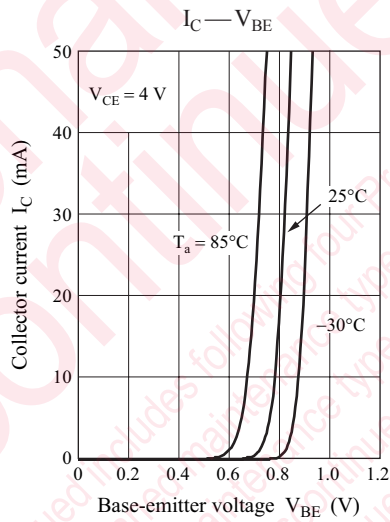
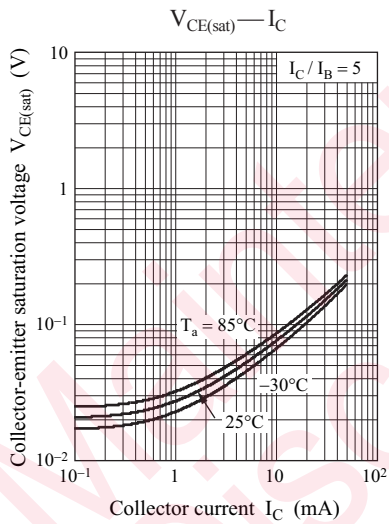
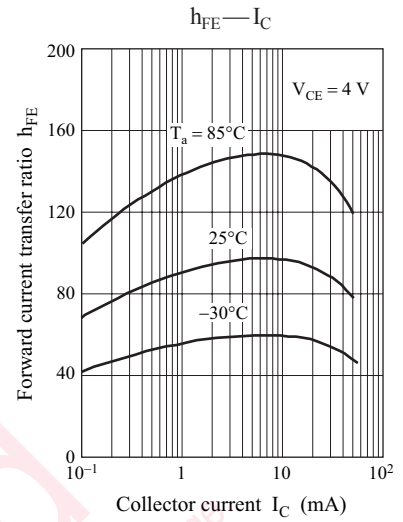
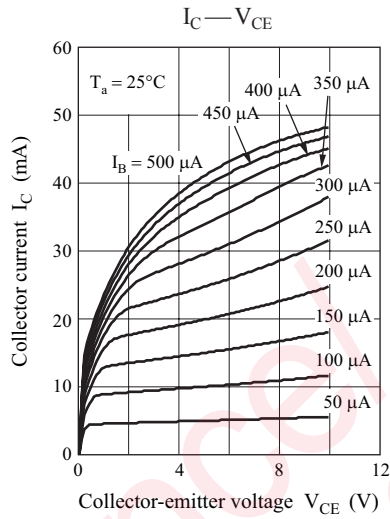
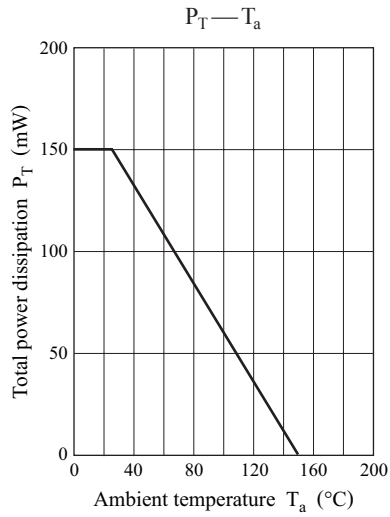
#### • Pin Name

- |                  |                    |
|------------------|--------------------|
| 1: Emitter (Tr1) | 4: Collector (Tr2) |
| 2: Base (Tr1)    | 5: Emitter (Tr2)   |
| 3: Base (Tr2)    | 6: Collector (Tr1) |

### ■ Marking Symbol: C8

### ■ Internal Connection





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