

DMC20402

Silicon NPN epitaxial planar type

For general amplification

■ Features

- High forward current transfer ratio h_{FE} with excellent linearity
- Halogen-free / RoHS compliant
(EU RoHS / UL-94 V-0 / MSL: Level 1 compliant)

■ Marking Symbol: B6

■ Basic Part Number

Dual DSC2002 (Individual)

■ Packaging

DMC204020R Embossed type (Thermo-compression sealing): 3 000 pcs / reel (standard)

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

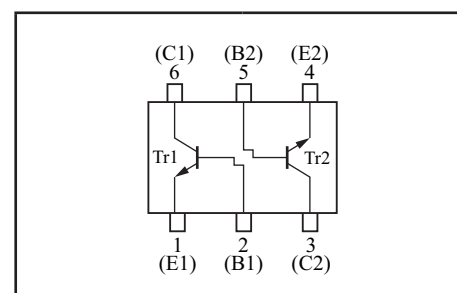
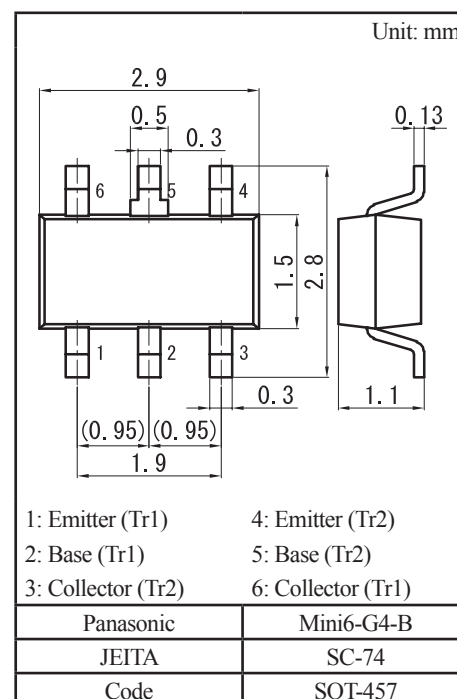
Parameter		Symbol	Rating	Unit
Tr1 Tr2	Collector-base voltage (Emitter open)	V_{CBO}	60	V
	Collector-emitter voltage (Base open)	V_{CEO}	50	V
	Emitter-base voltage (Collector open)	V_{EBO}	5	V
	Collector current	I_C	500	mA
	Peak collector current	I_{CP}	1	A
Overall	Total power dissipation	P_T	300	mW
	Junction temperature	T_j	150	$^\circ\text{C}$
	Operating ambient temperature	T_{opr}	-40 to +85	$^\circ\text{C}$
	Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

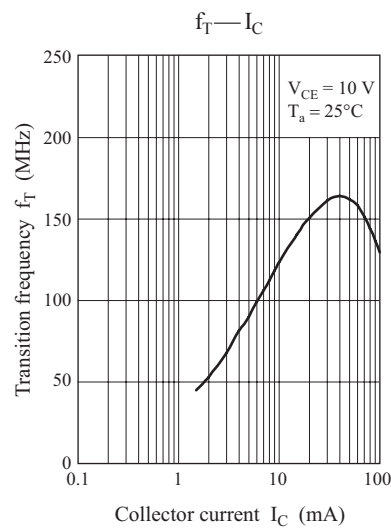
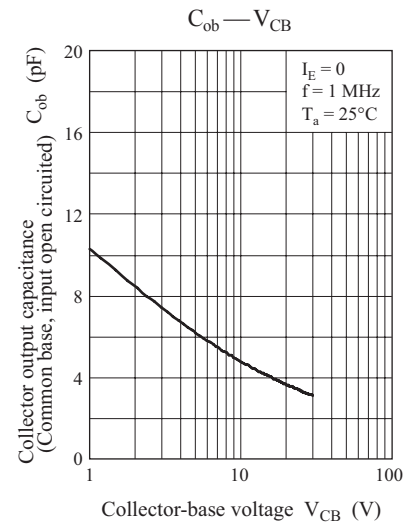
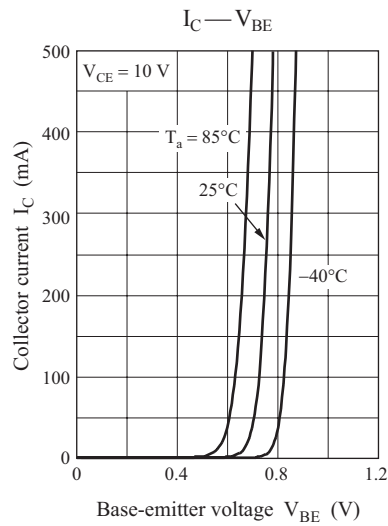
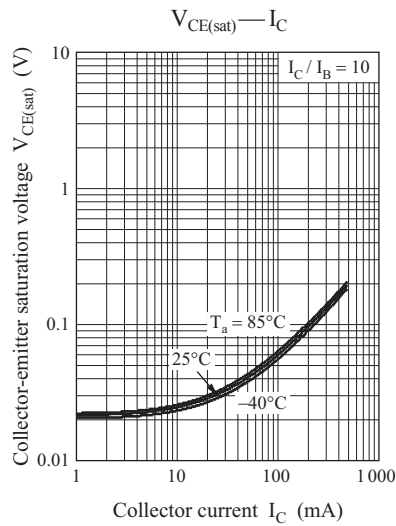
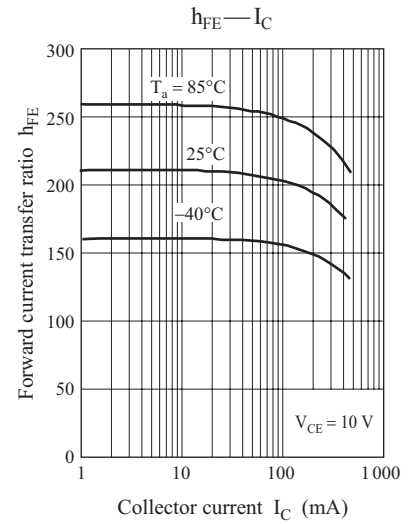
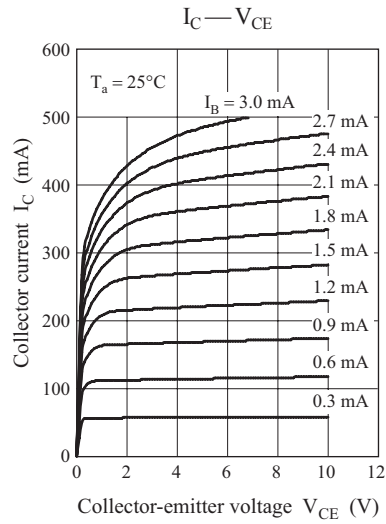
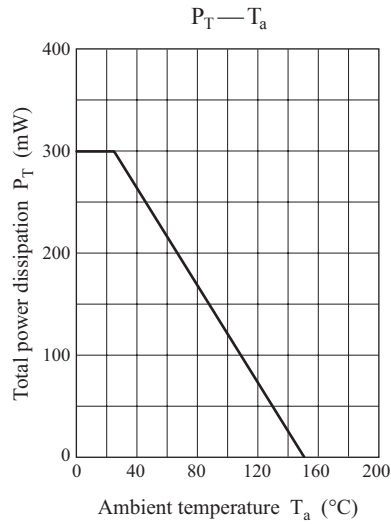
■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = 10 \mu\text{A}$, $I_E = 0$	60			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = 2 \text{ mA}$, $I_B = 0$	50			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 10 \mu\text{A}$, $I_C = 0$	5			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 20 \text{ V}$, $I_E = 0$			0.1	μA
Forward current transfer ratio *1	h_{FE1}	$V_{CE} = 10 \text{ V}$, $I_C = 150 \text{ mA}$	120		340	—
	h_{FE2}	$V_{CE} = 10 \text{ V}$, $I_C = 500 \text{ mA}$	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 300 \text{ mA}$, $I_B = 30 \text{ mA}$		0.1	0.6	V
Transition frequency	f_T	$V_{CE} = 10 \text{ V}$, $I_C = 50 \text{ mA}$		160		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = 10 \text{ V}$, $I_E = 0$, $f = 1 \text{ MHz}$		4.8	15	pF

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

2. *1: Pulse measurement





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