

DMA20403

Silicon PNP epitaxial planar type (Tr1)
 Silicon PNP epitaxial planar type (Tr2)

For general amplification

■ 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

■ Basic Part Number

DSA2001 + DSA2002 (Individual)

■ Packaging

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

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

	Parameter	Symbol	Rating	Unit
Tr1	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	A
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	$^\circ\text{C}$
	Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

■ Package

- Code

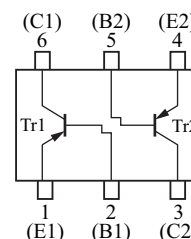
Mini6-G4-B

- Pin Name

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

■ Marking Symbol: B9

■ Internal Connection



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

• Tr1

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_{\text{C}} = -10 \mu\text{A}, I_{\text{E}} = 0$	-60			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_{\text{C}} = -2 \text{mA}, I_{\text{B}} = 0$	-50			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_{\text{E}} = -10 \mu\text{A}, I_{\text{C}} = 0$	-7			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{\text{CB}} = -20 \text{V}, I_{\text{E}} = 0$			-0.1	μA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{\text{CE}} = -10 \text{V}, I_{\text{B}} = 0$			-100	μA
Forward current transfer ratio	h_{FE}	$V_{\text{CE}} = -10 \text{V}, I_{\text{C}} = -2 \text{mA}$	210		460	—
Collector-emitter saturation voltage	$V_{\text{CE(sat)}}$	$I_{\text{C}} = -100 \text{mA}, I_{\text{B}} = -10 \text{mA}$		-0.2	-0.5	V
Transition frequency	f_{T}	$V_{\text{CB}} = -10 \text{V}, I_{\text{E}} = -2 \text{mA}$		150		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{\text{CB}} = -10 \text{V}, I_{\text{E}} = 0, f = 1 \text{MHz}$		2		pF

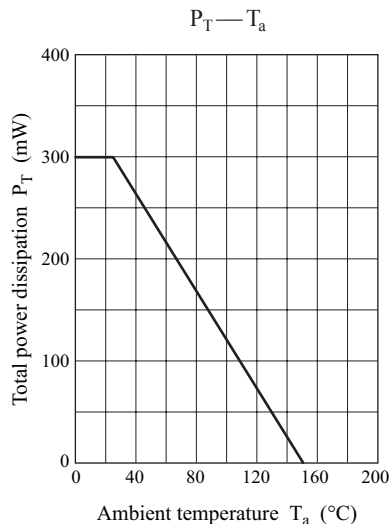
Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

• Tr2

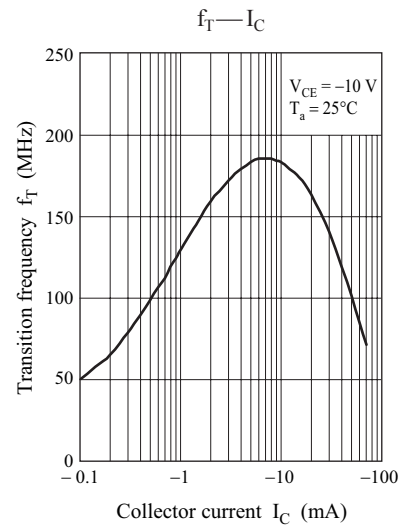
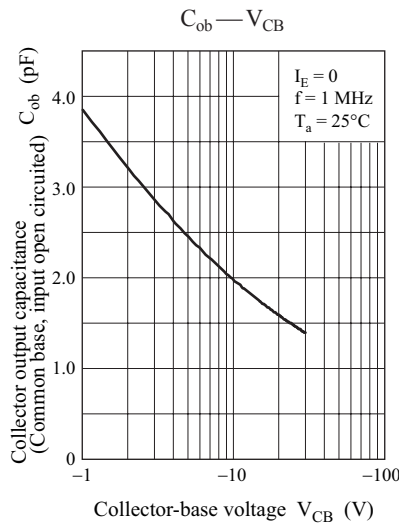
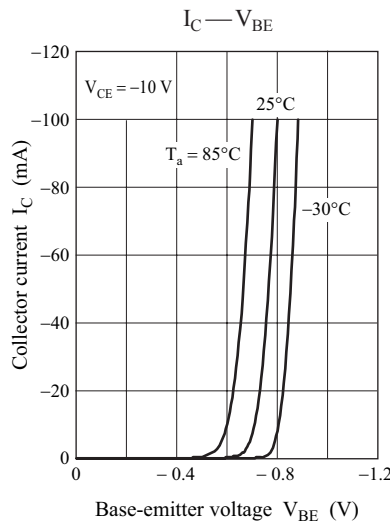
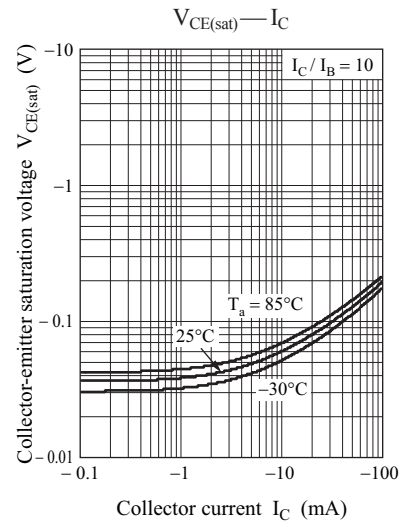
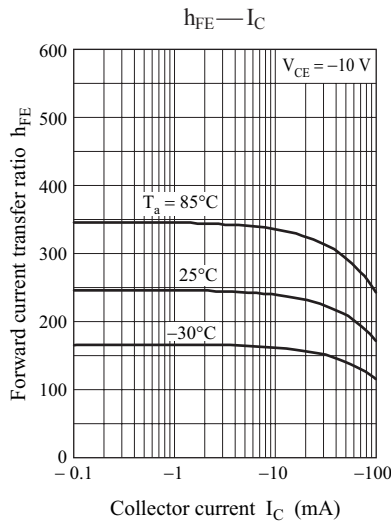
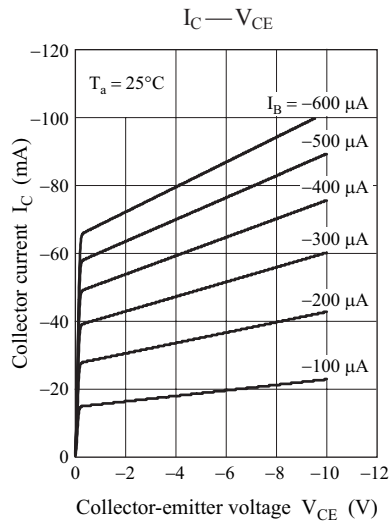
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_{\text{C}} = -10 \mu\text{A}, I_{\text{E}} = 0$	-60			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_{\text{C}} = -2 \text{mA}, I_{\text{B}} = 0$	-50			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_{\text{E}} = -10 \mu\text{A}, I_{\text{C}} = 0$	-5			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{\text{CB}} = -20 \text{V}, I_{\text{E}} = 0$			-0.1	μA
Forward current transfer ratio	h_{FE1}	$V_{\text{CE}} = -10 \text{V}, I_{\text{C}} = -150 \text{mA}$	120		340	—
	h_{FE2}	$V_{\text{CE}} = -10 \text{V}, I_{\text{C}} = -500 \text{mA}$	40			
Collector-emitter saturation voltage	$V_{\text{CE(sat)}}$	$I_{\text{C}} = -300 \text{mA}, I_{\text{B}} = -30 \text{mA}$		-0.2	-0.6	V
Base-emitter saturation voltage	$V_{\text{BE(sat)}}$	$I_{\text{C}} = -300 \text{mA}, I_{\text{B}} = -30 \text{mA}$		-0.9	-1.5	V
Transition frequency	f_{T}	$V_{\text{CE}} = -10 \text{V}, I_{\text{C}} = -50 \text{mA}$		130		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{\text{CB}} = -10 \text{V}, I_{\text{E}} = 0, f = 1 \text{MHz}$		7.3	15	pF

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

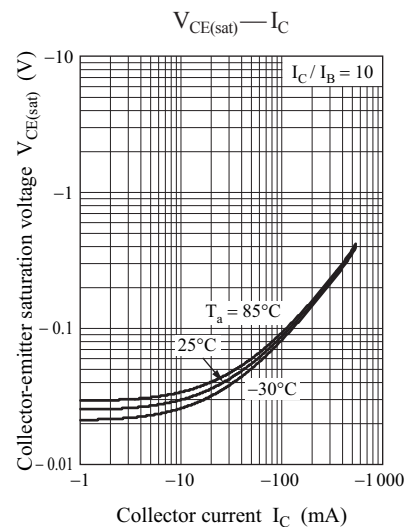
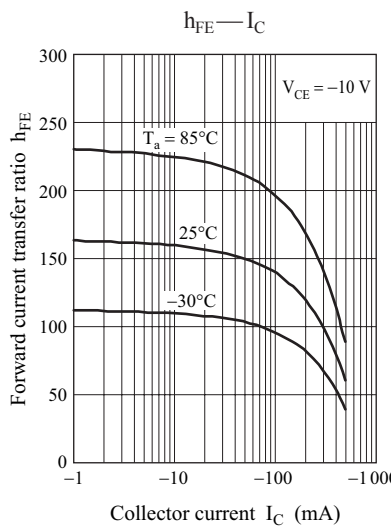
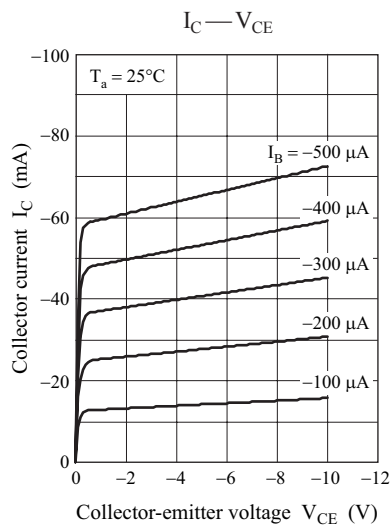
Common characteristics chart

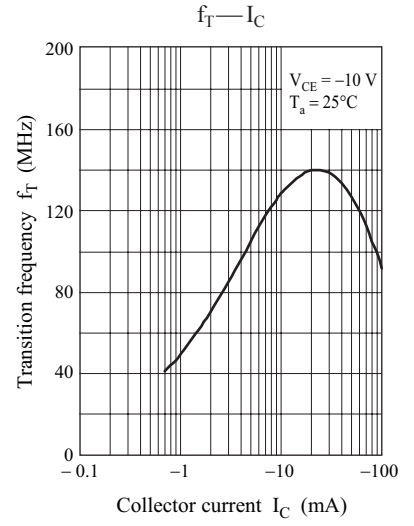
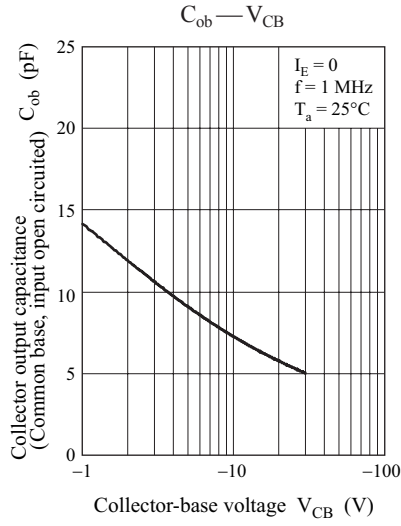
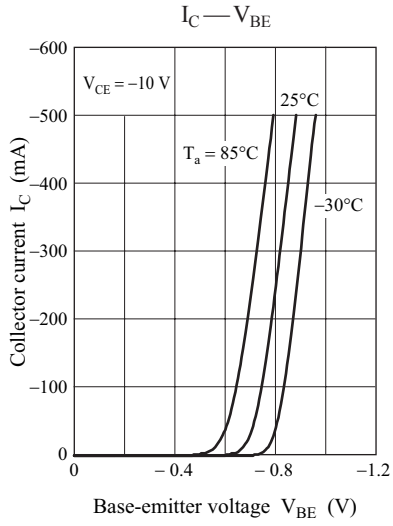


Characteristics charts of Tr1



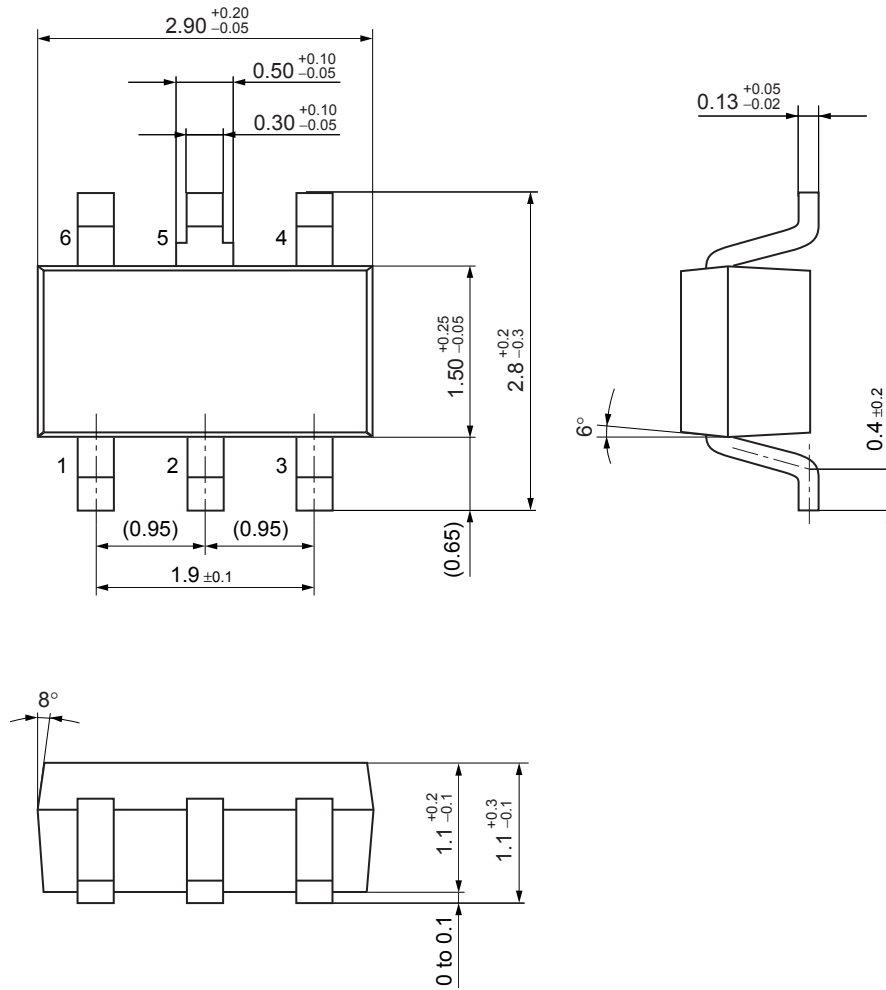
Characteristics charts of Tr2





Mini6-G4-B

Unit: mm



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