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# DME914C1

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

For digital circuits

## ■ Features

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

## ■ Marking Symbol: T5

## ■ Basic Part Number

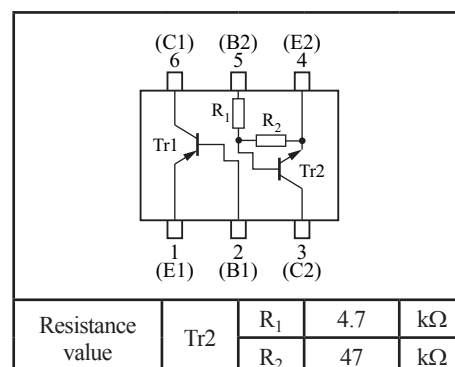
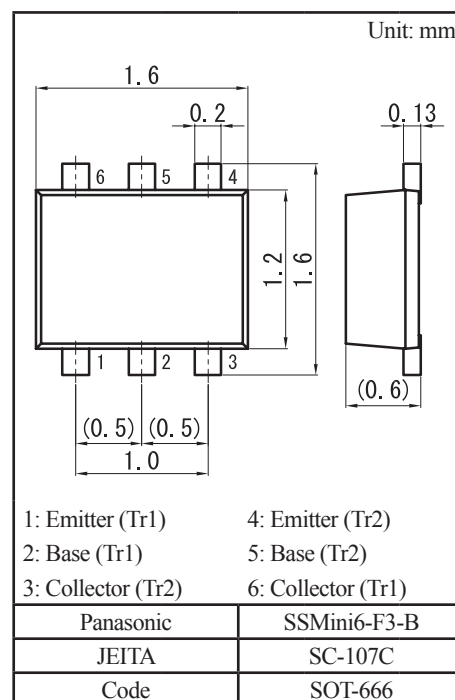
DSA9402 + DRA2143Z (Individual)

## ■ Packaging

DME914C10R Embossed type (Thermo-compression sealing): 8 000 pcs / reel (standard)

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

	Parameter	Symbol	Rating	Unit
Tr1	Collector-base voltage (Emitter open)	$V_{CBO}$	-15	V
	Collector-emitter voltage (Base open)	$V_{CEO}$	-12	V
	Emitter-base voltage (Collector open)	$V_{EBO}$	-5	V
	Collector current	$I_C$	-500	mA
	Peak collector current	$I_{CP}$	-1	A
Tr2	Collector-base voltage (Emitter open)	$V_{CBO}$	50	V
	Collector-emitter voltage (Base open)	$V_{CEO}$	50	V
	Collector current	$I_C$	100	mA
Overall	Total power dissipation	$P_T$	125	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 $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

#### • Tr1

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	$V_{\text{CBO}}$	$I_{\text{C}} = -10 \mu\text{A}, I_{\text{E}} = 0$	-15			V
Collector-emitter voltage (Base open)	$V_{\text{CEO}}$	$I_{\text{C}} = -1 \text{ mA}, I_{\text{B}} = 0$	-12			V
Emitter-base voltage (Collector open)	$V_{\text{EBO}}$	$I_{\text{E}} = -10 \mu\text{A}, I_{\text{C}} = 0$	-5			V
Collector-base cutoff current (Emitter open)	$I_{\text{CBO}}$	$V_{\text{CB}} = -10 \text{ V}, I_{\text{E}} = 0$			-0.1	$\mu\text{A}$
Forward current transfer ratio	$h_{\text{FE}}$	$V_{\text{CE}} = -2 \text{ V}, I_{\text{C}} = -10 \text{ mA}$	270		680	—
Collector-emitter saturation voltage	$V_{\text{CE(sat)}}$	$I_{\text{C}} = -200 \text{ mA}, I_{\text{B}} = -10 \text{ mA}$			-250	mV
Transition frequency	$f_{\text{T}}$	$V_{\text{CE}} = -2 \text{ V}, I_{\text{C}} = -10 \text{ mA}$		300		MHz
Collector output capacitance (Common base, input open circuited)	$C_{\text{ob}}$	$V_{\text{CB}} = -10 \text{ V}, I_{\text{E}} = 0, f = 1 \text{ MHz}$		4.0		pF

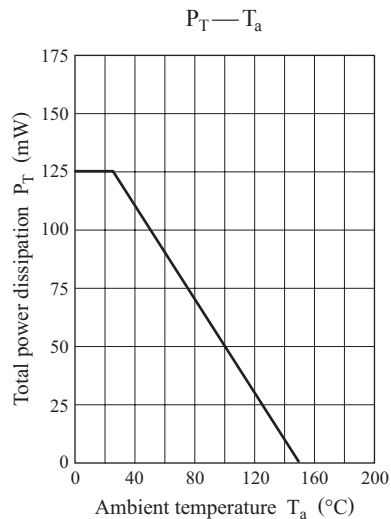
Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

#### • Tr2

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	$V_{\text{CBO}}$	$I_{\text{C}} = 10 \mu\text{A}, I_{\text{E}} = 0$	50			V
Collector-emitter voltage (Base open)	$V_{\text{CEO}}$	$I_{\text{C}} = 2 \text{ mA}, I_{\text{B}} = 0$	50			V
Collector-base cutoff current (Emitter open)	$I_{\text{CBO}}$	$V_{\text{CB}} = 50 \text{ V}, I_{\text{E}} = 0$			0.1	$\mu\text{A}$
Collector-emitter cutoff current (Base open)	$I_{\text{CEO}}$	$V_{\text{CE}} = 50 \text{ V}, I_{\text{B}} = 0$			0.5	$\mu\text{A}$
Emitter-base cutoff current (Collector open)	$I_{\text{EBO}}$	$V_{\text{EB}} = 6 \text{ V}, I_{\text{C}} = 0$			0.2	mA
Forward current transfer ratio	$h_{\text{FE}}$	$V_{\text{CE}} = 10 \text{ V}, I_{\text{C}} = 5 \text{ mA}$	80		400	—
Collector-emitter saturation voltage	$V_{\text{CE(sat)}}$	$I_{\text{C}} = 10 \text{ mA}, I_{\text{B}} = 0.5 \text{ mA}$			0.25	V
Input voltage (ON)	$V_{\text{I(on)}}$	$V_{\text{CE}} = 0.2 \text{ V}, I_{\text{C}} = 5 \text{ mA}$	1.3			V
Input voltage (OFF)	$V_{\text{I(off)}}$	$V_{\text{CE}} = 5 \text{ V}, I_{\text{C}} = 100 \mu\text{A}$			0.4	V
Input resistance	$R_{\text{I}}$		-30%	4.7	+30%	$\text{k}\Omega$
Resistance ratio	$R_{\text{I}} / R_{\text{2}}$		0.08	0.10	0.12	—

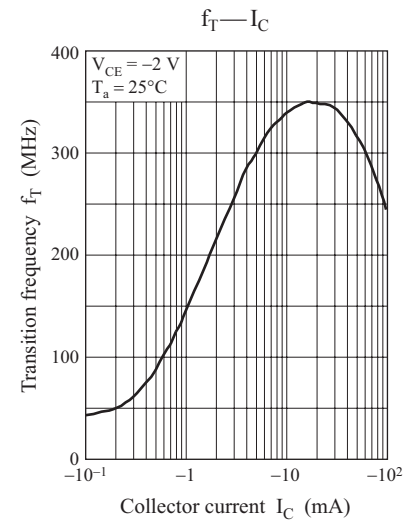
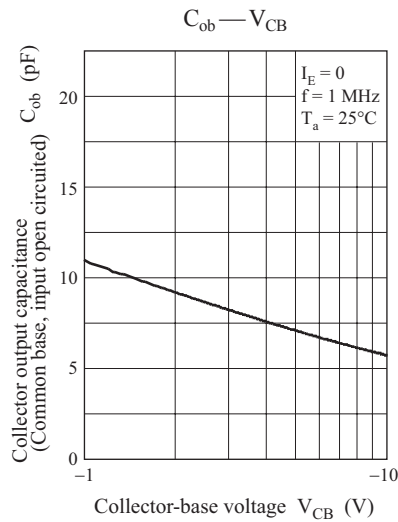
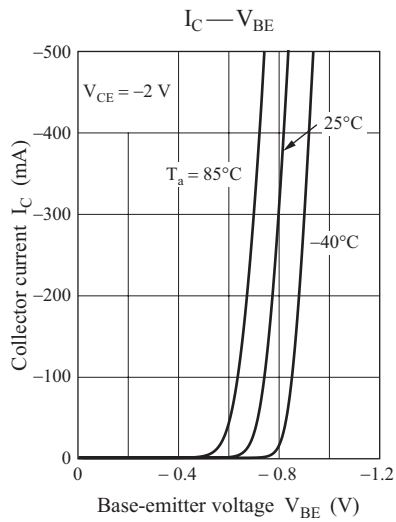
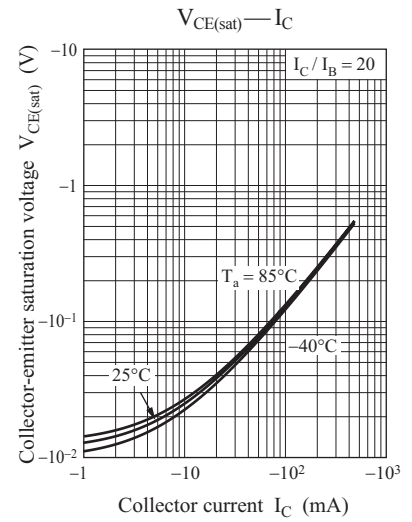
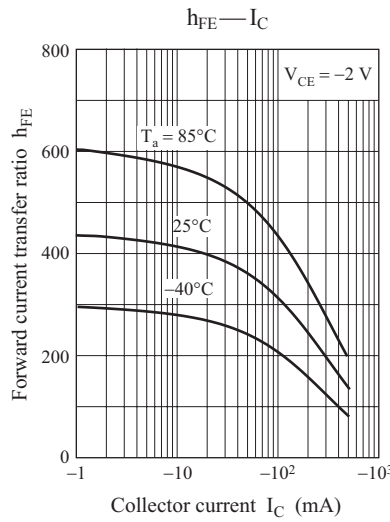
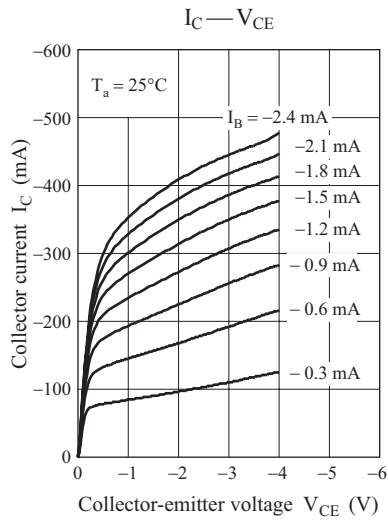
Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

#### Common characteristics chart

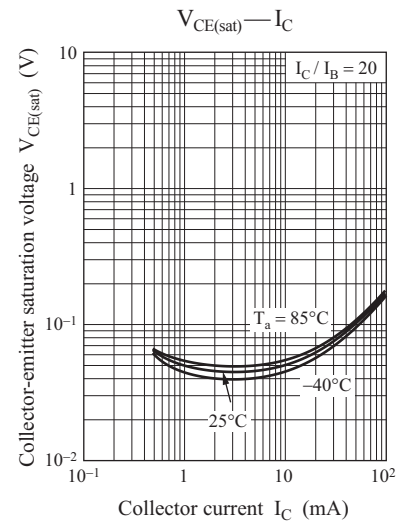
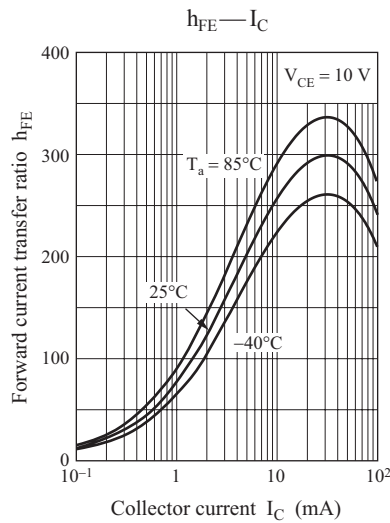
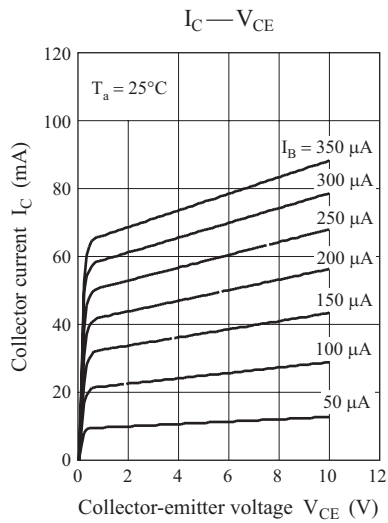


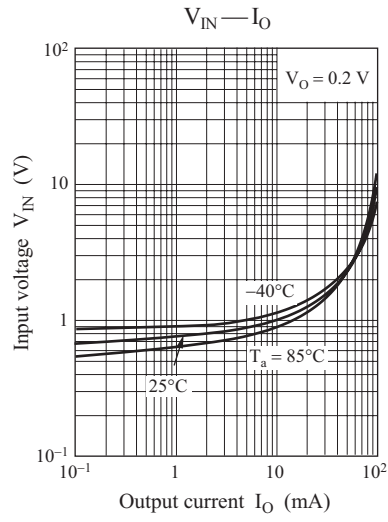
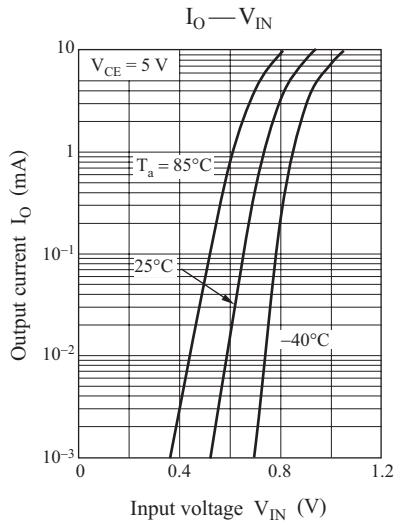


Characteristics charts of Tr1



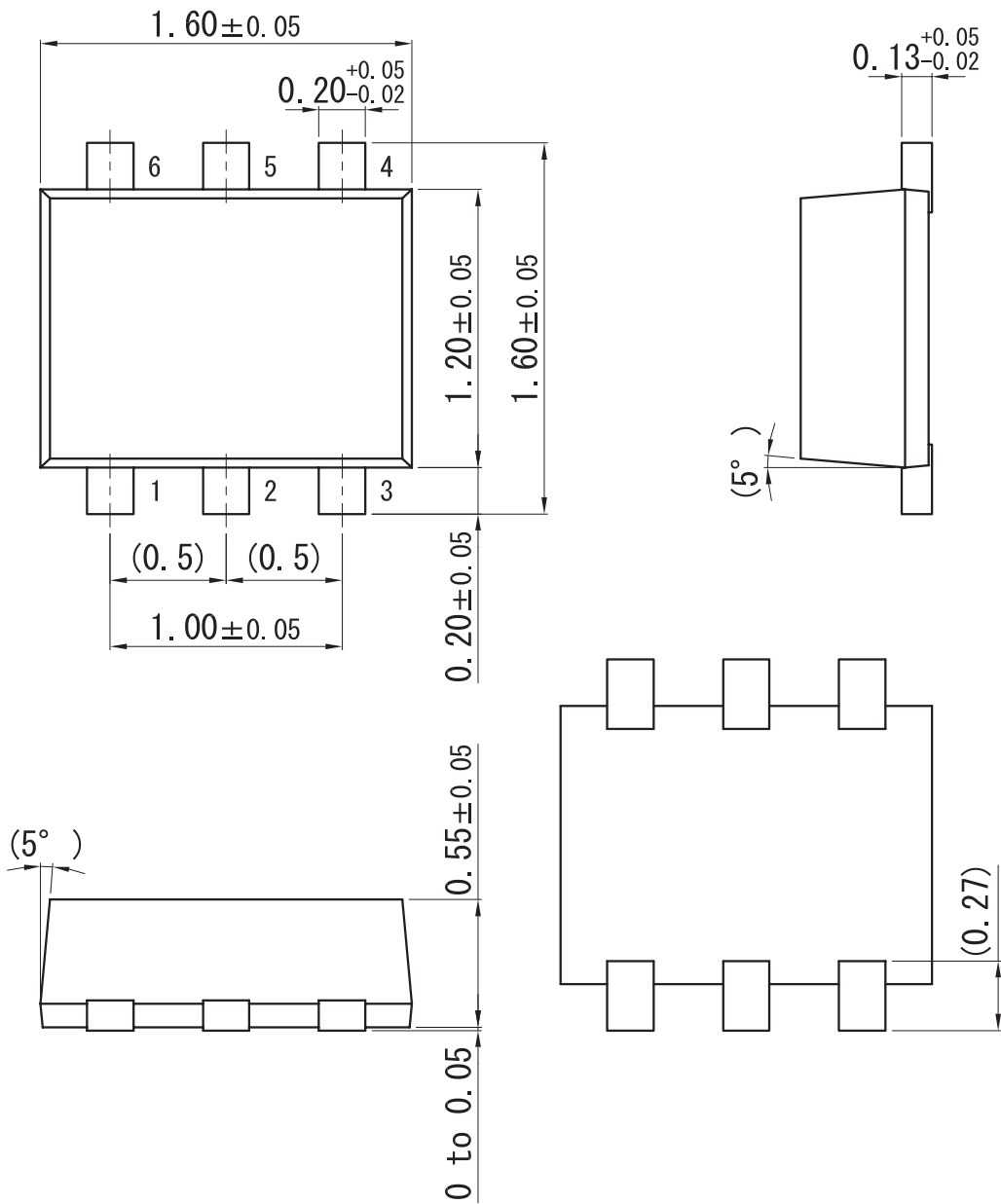
Characteristics charts of Tr2



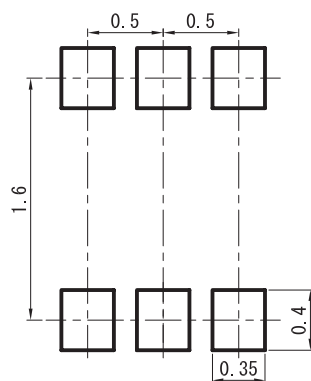


SSMini6-F3-B

Unit: mm



■ Land Pattern (Reference) (Unit: mm)



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