DMG563H4

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

For digital circuits

■ Features

- ullet Low collector-emitter saturation voltage $V_{\text{CE(sat)}}$
- Contributes to miniaturization of sets, reduction of component count.
- Eco-friendly Halogen-free package

■ Basic Part Number

DRC2114E + DRA2152Z (Collector-base connection)

Packaging

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

■ Absolute Maximum Ratings $T_a = 25$ °C

	Parameter	Symbol	Rating	Unit
Tr1	Collector-base voltage (Emitter open)	V _{CBO}	50	V
	Collector-emitter voltage (Base open)	V _{CEO}	50	V
	Collector current	I_{C}	100	mA
Tr2	Collector-base voltage (Emitter open) V		-50	V
	Collector-emitter voltage (Base open)	V _{CEO}	-50	V
	Collector current	I_{C}	-100	mA
Overall	Total power dissipation	P_{T}	150	mW
	Junction temperature	T _j	150	°C
	Storage temperature	T _{stg}	-55 to +150	°C

Package

• Code

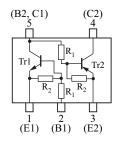
SMini5-F3-B

• Pin Name

1: Emitter (Tr1) 4: Collecter (Tr2) 2: Base (Tr1) 5: Base (Tr2) 3: Emitter (Tr2) Collecter (Tr1)

■ Marking Symbol: T9

■ Internal Connection



	Tr1	R_1	10	kΩ	
Resistance	111	R_2	10		
value	Tr2	R_1	0.51	kΩ	
		R ₂	5.1		

■ Electrical Characteristics $T_a = 25$ °C±3°C

• Tr1

Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = 10 \mu A, I_E = 0$	50			V
Collector-emitter voltage (Base open)	V _{CEO}	$I_C = 2 \text{ mA}, I_B = 0$	50			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 50 \text{ V}, I_{E} = 0$			0.1	μΑ
Collector-emitter cutoff current (Base open)	I _{CEO}	$V_{CE} = 50 \text{ V}, I_{B} = 0$			0.5	μΑ
Emitter-base cutoff current (Collector open)	I _{EBO}	$V_{EB} = 6 \text{ V}, I_C = 0$			0.5	mA
Forward current transfer ratio	h_{FE}	$V_{CE} = 10 \text{ V}, I_{C} = 5 \text{ mA}$	35			_
Collector-emitter saturation voltage	V _{CE(sat)}	$I_C = 10 \text{ mA}, I_B = 0.5 \text{ mA}$			0.25	V
Input voltage (ON)	V _{I(on)}	$V_{CE} = 0.2 \text{ V}, I_{C} = 5 \text{ mA}$	2.1			V
Input voltage (OFF)	V _{I(off)}	$V_{CE} = 5 \text{ V}, I_{C} = 100 \mu\text{A}$			0.8	V
Input resistance	R_1		-30%	10	+30%	kΩ
Resistance ratio	R_1/R_2		0.8	1.0	1.2	_

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

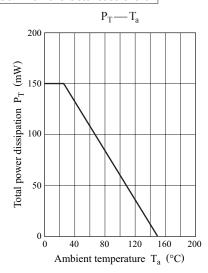
■ Electrical Characteristics (Continued) $T_a = 25$ °C±3°C

• Tr2

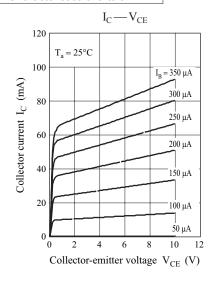
Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Collector-base voltage (Emitter open)	V _{CBO}	$I_{\rm C} = -10 \mu\text{A}, I_{\rm E} = 0$	-50			V
Collector-emitter voltage (Base open)	V _{CEO}	$I_C = -2 \text{ mA}, I_B = 0$	-50			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{\rm CB} = -50 \text{ V}, I_{\rm E} = 0$			-0.1	μΑ
Collector-emitter cutoff current (Base open)	I _{CEO}	$V_{CE} = -50 \text{ V}, I_{B} = 0$			-0.5	μΑ
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = -6 \text{ V}, I_C = 0$			-2.0	mA
Forward current transfer ratio	h_{FE}	$V_{CE} = -10 \text{ V}, I_{C} = -5 \text{ mA}$	20			_
Collector-emitter saturation voltage	V _{CE(sat)}	$I_C = -10 \text{ mA}, I_B = -0.5 \text{ mA}$			-0.25	V
Input voltage (ON)	V _{I(on)}	$V_{CE} = -0.2 \text{ V}, I_{C} = -5 \text{ mA}$	-1.0			V
Input voltage (OFF)	V _{I(off)}	$V_{CE} = -5 \text{ V}, I_{C} = -100 \mu\text{A}$			-0.4	V
Input resistance	R_1		-30%	0.51	+30%	kΩ
Resistance ratio	R_1/R_2		0.08	0.10	0.12	_

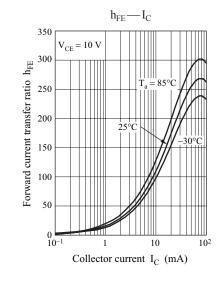
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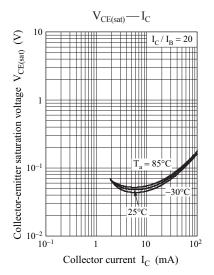
Common characteristics chart



Characteristics charts of Tr1

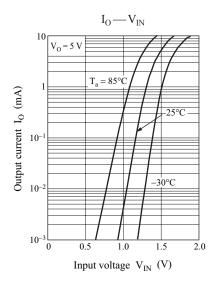


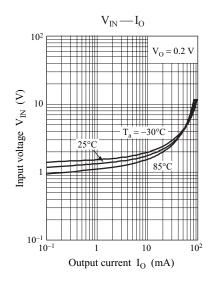




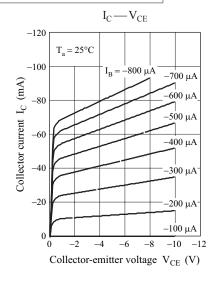
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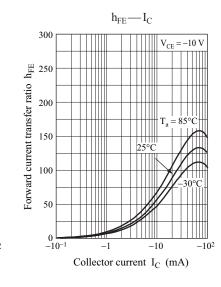
Panasonic DMG563H4

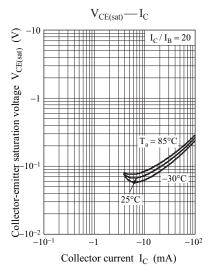


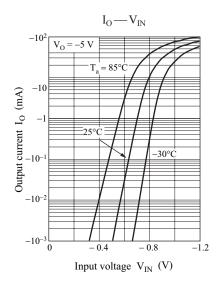


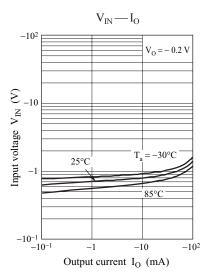
Characteristics charts of Tr2





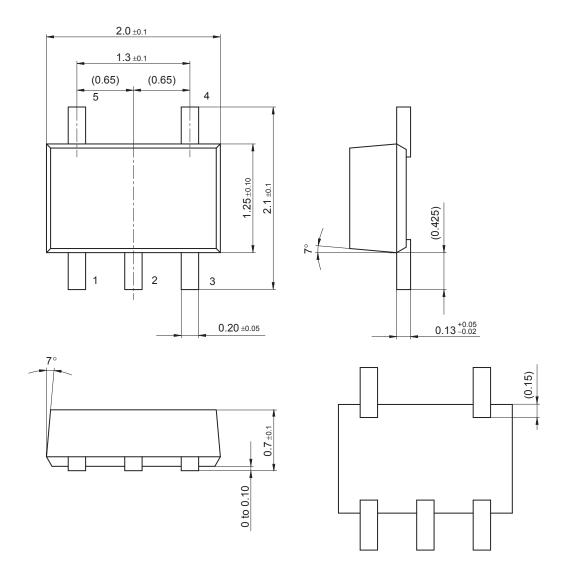






SMini5-F3-B

Unit: mm



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