

# DMT9FK01

Silicon epitaxial planar type (Diode)  
Silicon PNP epitaxial planar type (Tr)

For high speed switching circuits

For digital circuits

## ■ Features

- Two elements incorporated into one package (SBD + Tr)
- Contributes to miniaturization of sets, reduction of component count.
- Eco-friendly Halogen-free package

## ■ Basic Part Number

DRAQA44E + DB2S311 (Individual)

## ■ Packaging

Embossed type (Thermo-compression sealing): 8000 pcs / reel (standard)

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

	Parameter	Symbol	Rating	Unit
Diode	Reverse voltage	$V_R$	30	V
	Repetitive peak reverse voltage	$V_{RRM}$	30	V
	Forward current (Average)	$I_{F(AV)}$	200	mA
	Peak forward current	$I_{FM}$	300	mA
	Non-repetitive peak forward surge current *	$I_{FSM}$	1	A
Tr	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	$T_j$	125	$^\circ\text{C}$
	Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

Note) \*: 50 Hz sine wave 1 cycle (Non-repetitive peak current)

## ■ Package

### • Code

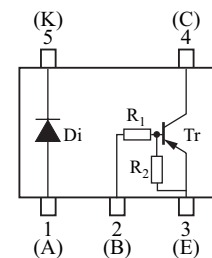
SSMini5-F4-B

### • Pin Name

1: Anode	4: Collector
2: Base	5: Cathode
3: Emitter	

## ■ Marking Symbol: X2

## ■ Internal Connection



Resistance	$R_1$	47	$k\Omega$
value	$R_2$	47	$k\Omega$



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

## • Diode

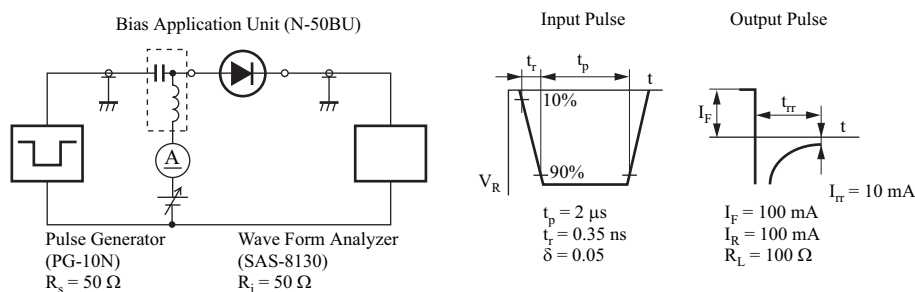
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Forward voltage	$V_F$	$I_F = 200 \text{ mA}$			0.56	V
Reverse current	$I_{R1}$	$V_R = 10 \text{ V}$			0.5	$\mu\text{A}$
	$I_{R2}$	$V_R = 30 \text{ V}$			5	
Terminal capacitance	$C_t$	$V_R = 10 \text{ V}, f = 1 \text{ MHz}$		6.0		pF
Reverse recovery time *	$t_{rr}$	$I_F = I_R = 100 \text{ mA}, I_{rr} = 10 \text{ mA}, R_L = 100 \Omega$		2.2		ns

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7031 measuring methods for diodes.

2. This product is sensitive to electric shock (static electricity, etc.). Due attention must be paid on the charge of a human body and the leakage of current from the operating equipment.

3. Absolute frequency of input and output is 250 MHz

\*:  $t_{rr}$  measurement circuit



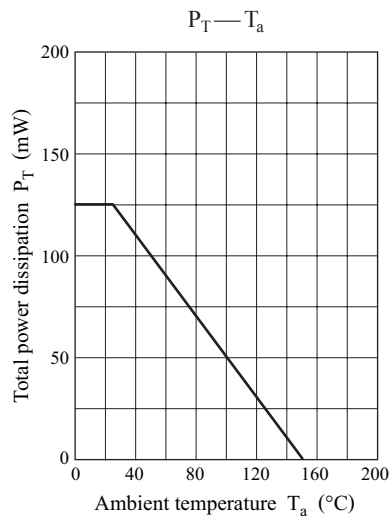
## • Tr

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	$I_C = -10 \mu\text{A}, I_E = 0$	-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	$\mu\text{A}$
Collector-emitter cutoff current (Base open)	$I_{CEO}$	$V_{CE} = -50 \text{ V}, I_B = 0$			-0.5	$\mu\text{A}$
Emitter-base cutoff current (Collector open)	$I_{EBO}$	$V_{EB} = -6 \text{ V}, I_C = 0$			-0.1	mA
Forward current transfer ratio	$h_{FE}$	$V_{CE} = -10 \text{ V}, I_C = -5 \text{ mA}$	80			—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -10 \text{ mA}, I_B = -0.5 \text{ mA}$			-0.25	V
Input voltage (ON)	$V_{I(on)}$	$V_{CE} = -0.2 \text{ V}, I_C = -5 \text{ mA}$	-3.6			V
Input voltage (OFF)	$V_{I(off)}$	$V_{CE} = -5 \text{ V}, I_C = -100 \mu\text{A}$			-0.8	V
Input resistance	$R_i$		-30%	47	+30%	k $\Omega$
Resistance ratio	$R_1 / R_2$		0.8	1.0	1.2	—

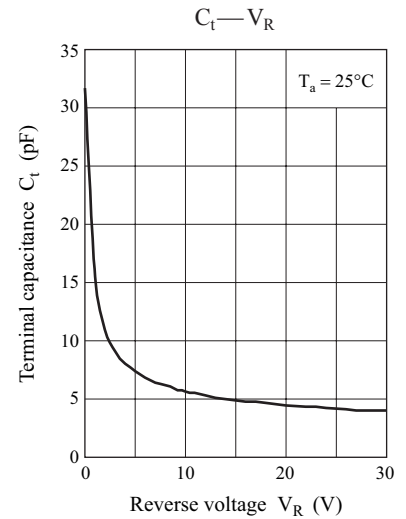
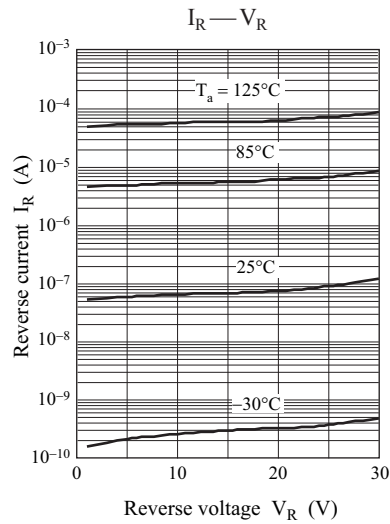
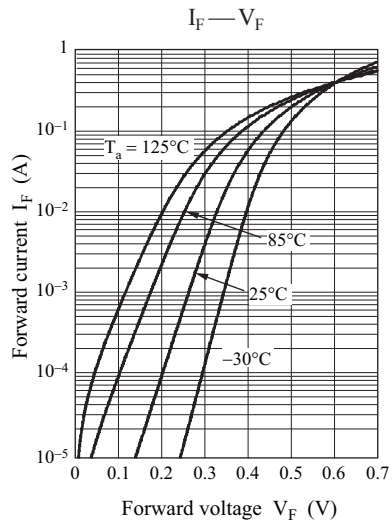
Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.



Common characteristics chart

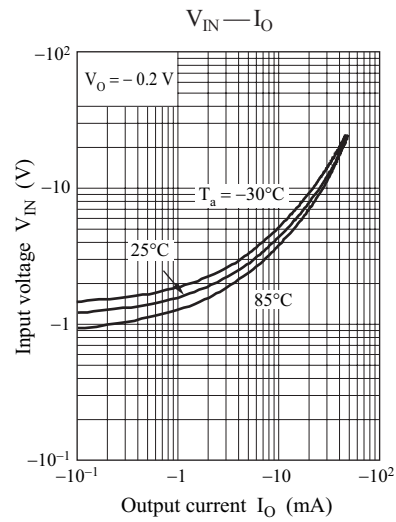
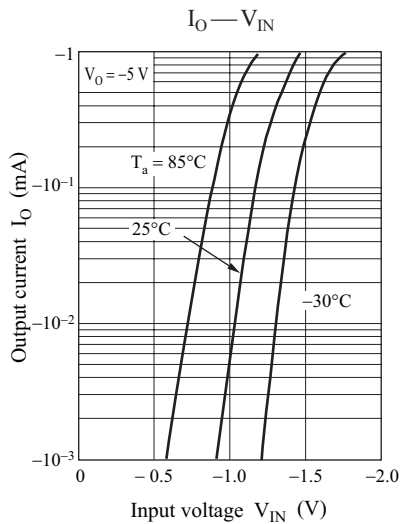
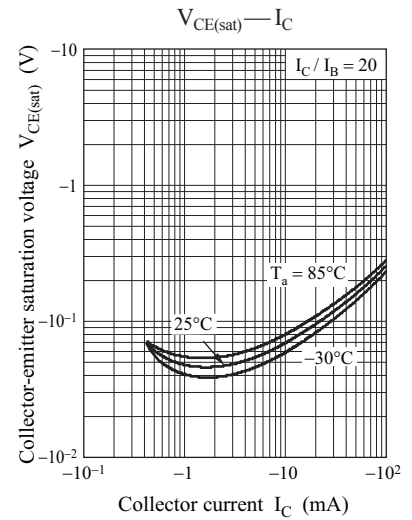
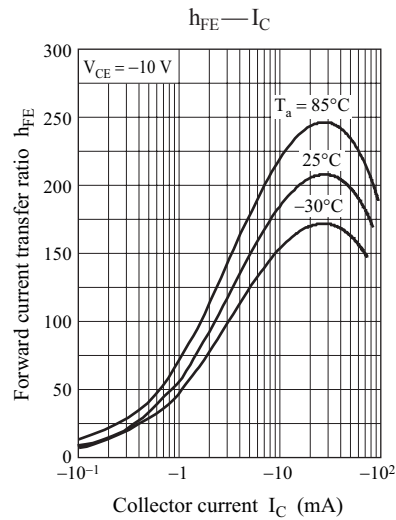
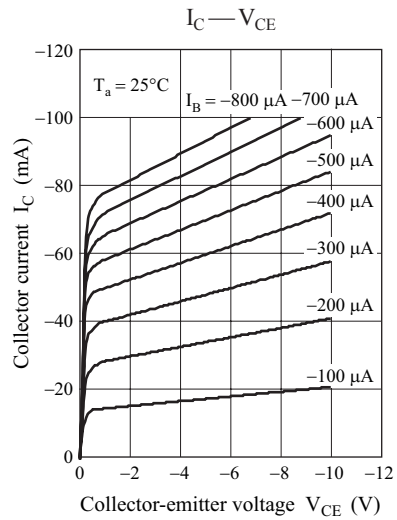


Characteristics charts of Diode





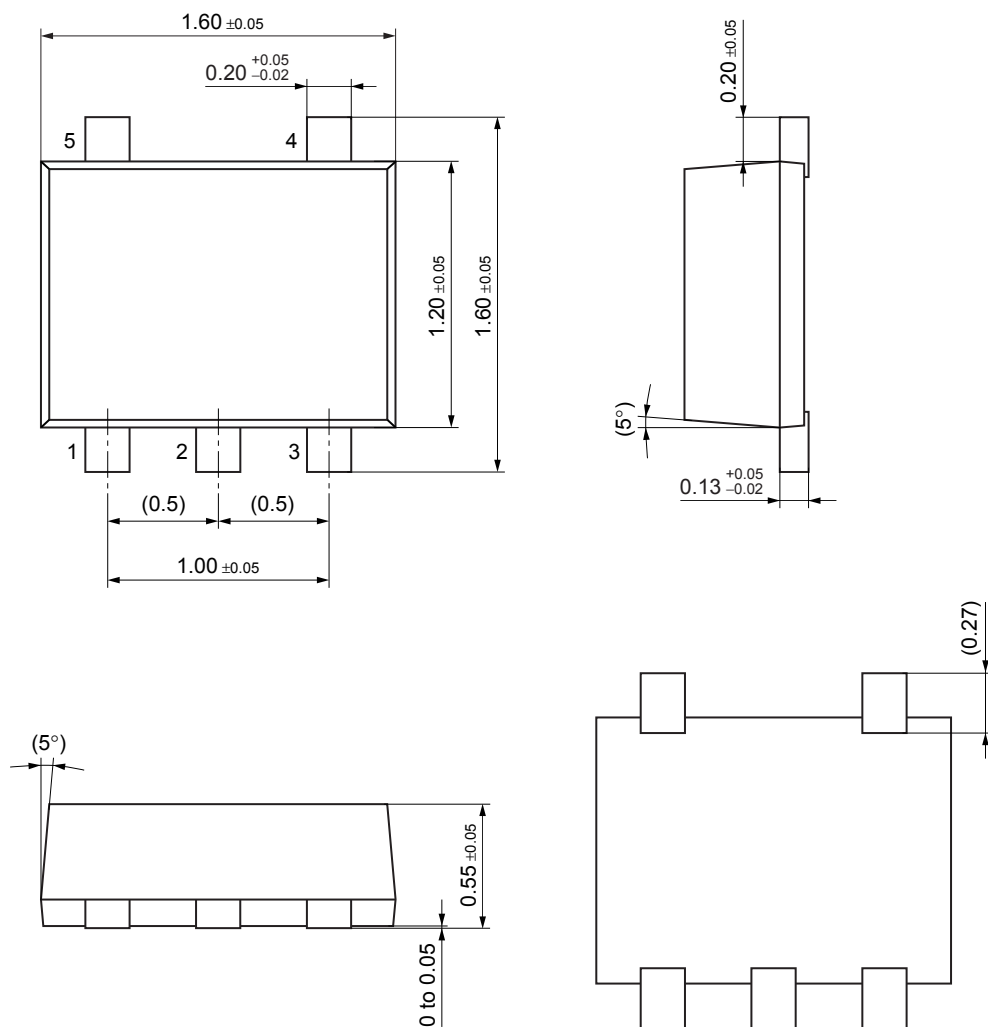
Characteristics charts of Tr





# SSMini5-F4-B

Unit: mm





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