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

DMT9FK010R Embossed type (Thermo-compression sealing): 8000 pcs / reel (standard)

■ Absolute Maximum Ratings $T_a = 25°C$

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	°C
	Storage temperature	T_{stg}	–55 to +150	°C

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

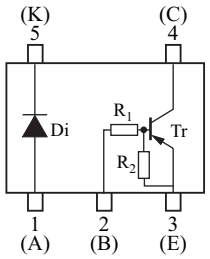
■ Package

- Code
  SSMini5-F4-B
  Package dimension clicks here.→ Click!

- Pin Name
  1: Anode 4: Collector
  2: Base 5: Cathode
  3: Emitter

■ Marking Symbol: X2

■ Internal Connection



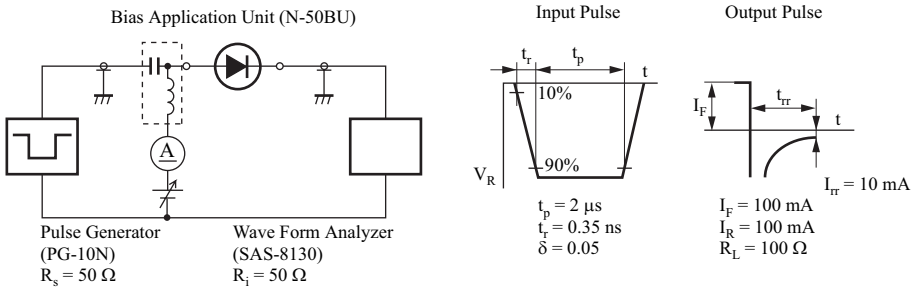
Resistance value	R_1	47	kΩ
	R_2	47	kΩ

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

• Diode

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



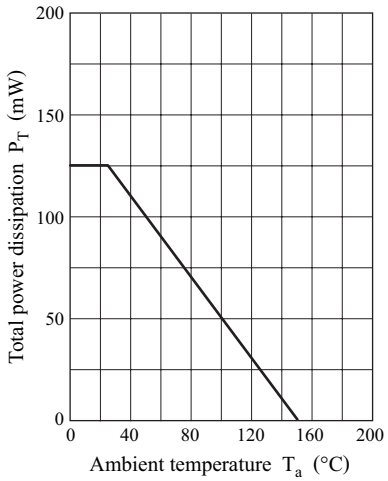
• Tr

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	I_C = –10 μA, I_E = 0	–50			V
Collector-emitter voltage (Base open)	V_{CEO}	I_C = –2 mA, I_B = 0	–50			V
Collector-base cutoff current (Emitter open)	I_{CBO}	V_{CB} = –50 V, I_E = 0			– 0.1	μA
Collector-emitter cutoff current (Base open)	I_{CEO}	V_{CE} = –50 V, I_B = 0			– 0.5	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	V_{EB} = –6 V, I_C = 0			– 0.1	mA
Forward current transfer ratio	h_{FE}	V_{CE} = –10 V, I_C = –5 mA	80			—
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C = –10 mA, I_B = – 0.5 mA			– 0.25	V
Input voltage (ON)	$V_{I(on)}$	V_{CE} = – 0.2 V, I_C = –5 mA	–3.6			V
Input voltage (OFF)	$V_{I(off)}$	V_{CE} = –5 V, I_C = –100 μA			– 0.8	V
Input resistance	R_1		–30%	47	+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.

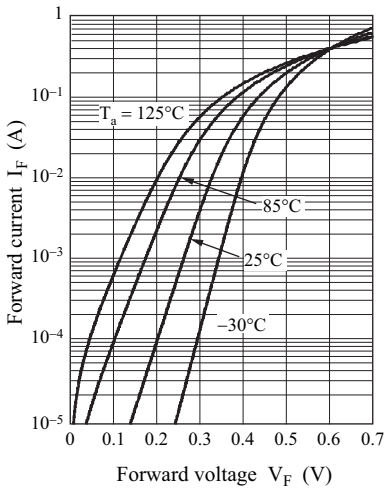
Common characteristics chart

P_T — T_a

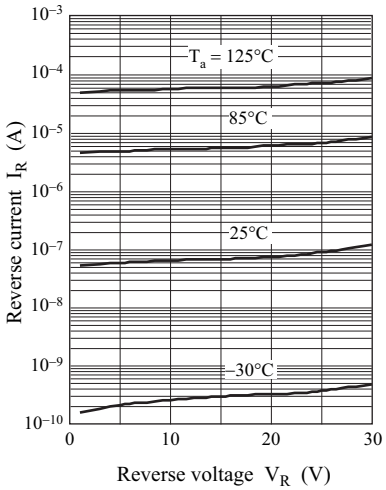


Characteristics charts of Diode

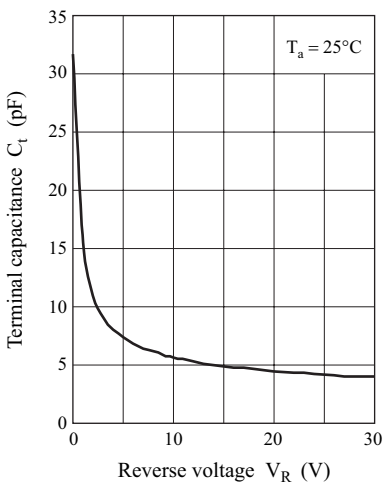
I_F — V_F



I_R — V_R

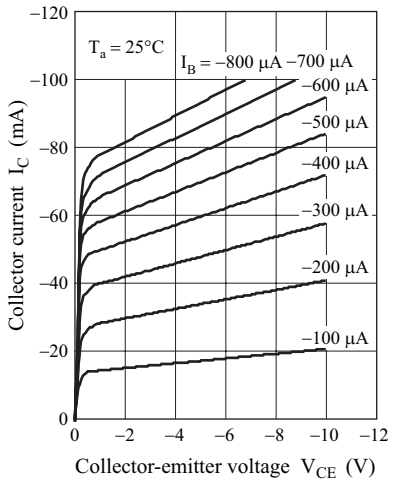


C_t — V_R

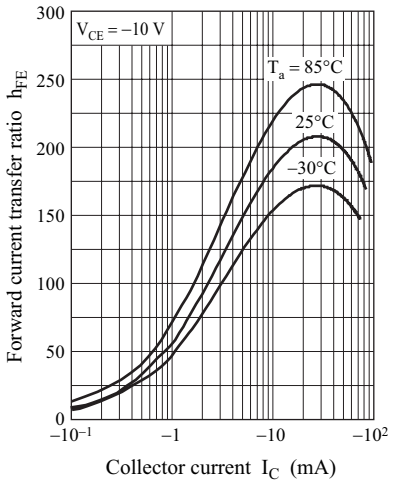


Characteristics charts of Tr

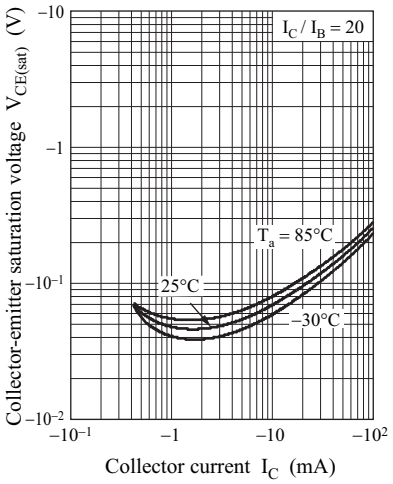
I_C — V_{CE}



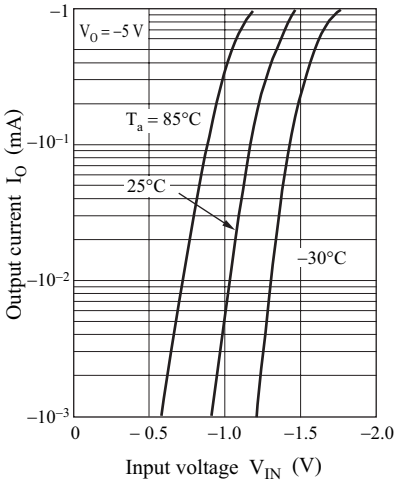
h_{FE} — I_C



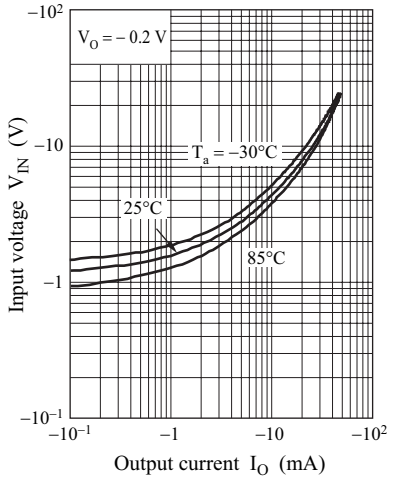
$V_{CE(sat)}$ — I_C



I_O — V_{IN}



V_{IN} — I_O



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