DMS935E2

Silicon NPN epitaxial planar type (Tr)
Silicon epitaxial planar type (CCD load device)

For CCD output circuits

■ Features

- Two elements incorporated into one package (Tr + CCD load device)
- High transition frequency f_T
- Contributes to miniaturization of sets, reduction of component count.
- Eco-friendly Halogen-free package

■ Basic Part Number

DSC2G03 + CCD load device (Individual)

■ Packaging

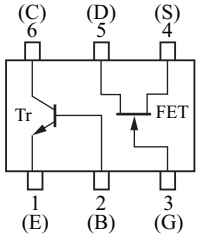
Embossed type (Thermo-compression sealing): 8000 pcs / reel (standard)

■ Package

- Code
  SSMini6-F3-B
- Pin Name
  1: Emitter 4: Source
  2: Base 5: Drain
  3: Gate 6: Collector

■ Marking Symbol: X1

■ Internal Connection



■ Absolute Maximum Ratings $T_a = 25°C$

Parameter		Symbol	Rating	Unit
Tr1	Collector-base voltage (Emitter open)	V_{CBO}	30	V
	Collector-emitter voltage (Base open)	V_{CEO}	20	V
	Emitter-base voltage (Collector open)	V_{EBO}	3	V
	Collector current	I_C	50	mA
CCD load device	Limiting element voltage	V_{max}	40	V
	Limiting element current	I_{max}	10	mA
Overall	Total power dissipation *	P_T	125	mW
	Junction temperature	T_j	150	°C
	Storage temperature	T_{stg}	–55 to +150	°C

Note) *: Measuring on substrate at 17 mm × 10 mm × 1 mm

■ Electrical Characteristics $T_a = 25°C \pm 3°C$

- Tr1

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = 100\ \mu A$, $I_E = 0$	30			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 10\ \mu A$, $I_C = 0$	3			V
Base-emitter voltage	V_{BE}	$V_{CE} = 10$ V, $I_C = 2$ mA		750		mV
Forward current transfer ratio	h_{FE}	$V_{CE} = 10$ V, $I_C = 2$ mA	100		250	—
Transition frequency	f_T	$V_{CE} = 10$ V, $I_C = 15$ mA		1 300		MHz

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. *: Pulse measurement

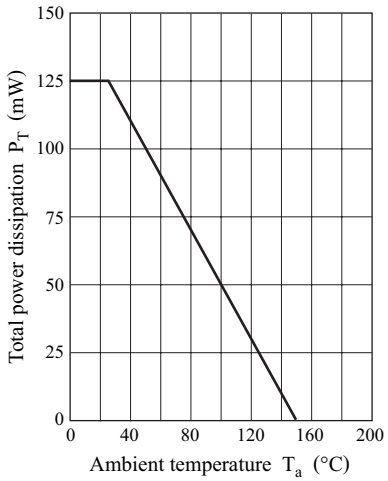
- CCD load device

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Pinchi off current	I_P	$V_{DS} = 8$ V, $V_G = 0$	5.0		7.0	mA
Output impedance	Z_O	$V_{DS} = 8$ V, $V_G = 0$		0.02		μΩ

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

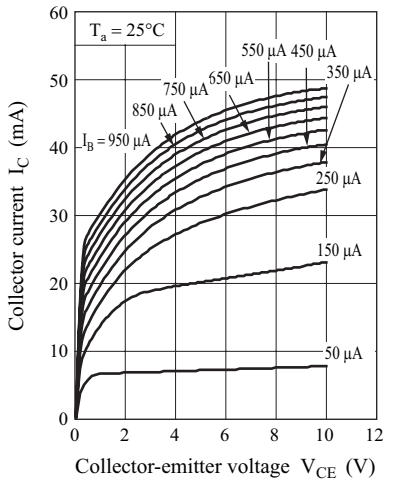
Common characteristics chart

P_T — T_a

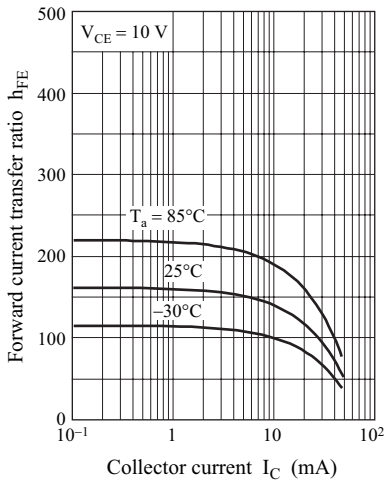


Characteristics charts of Tr

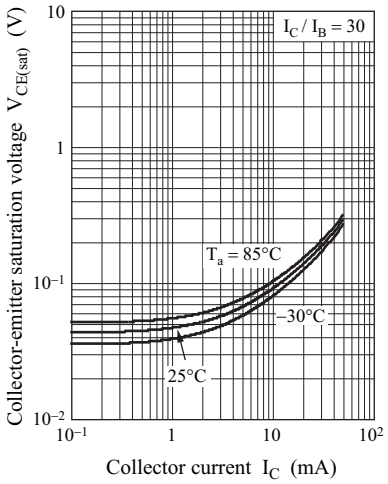
I_C — V_{CE}



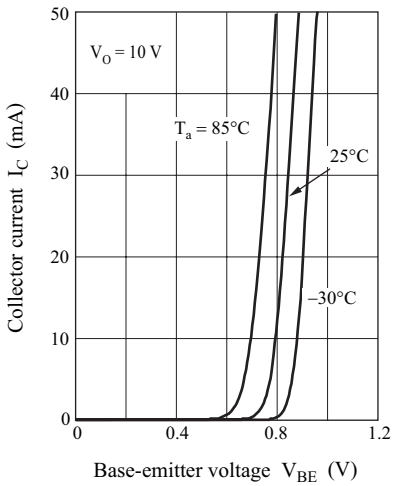
h_{FE} — I_C



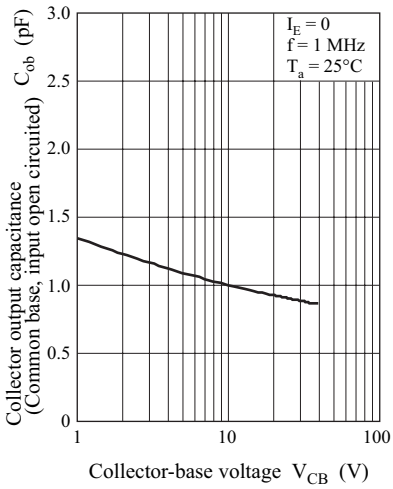
$V_{CE(sat)}$ — I_C



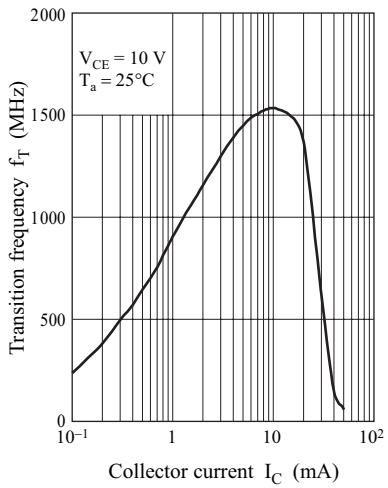
I_C — V_{BE}



C_{ob} — V_{CB}

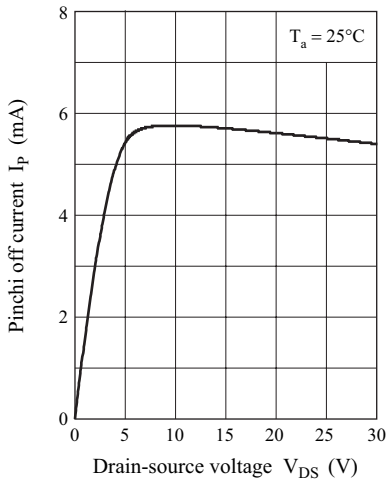


f_T — I_C



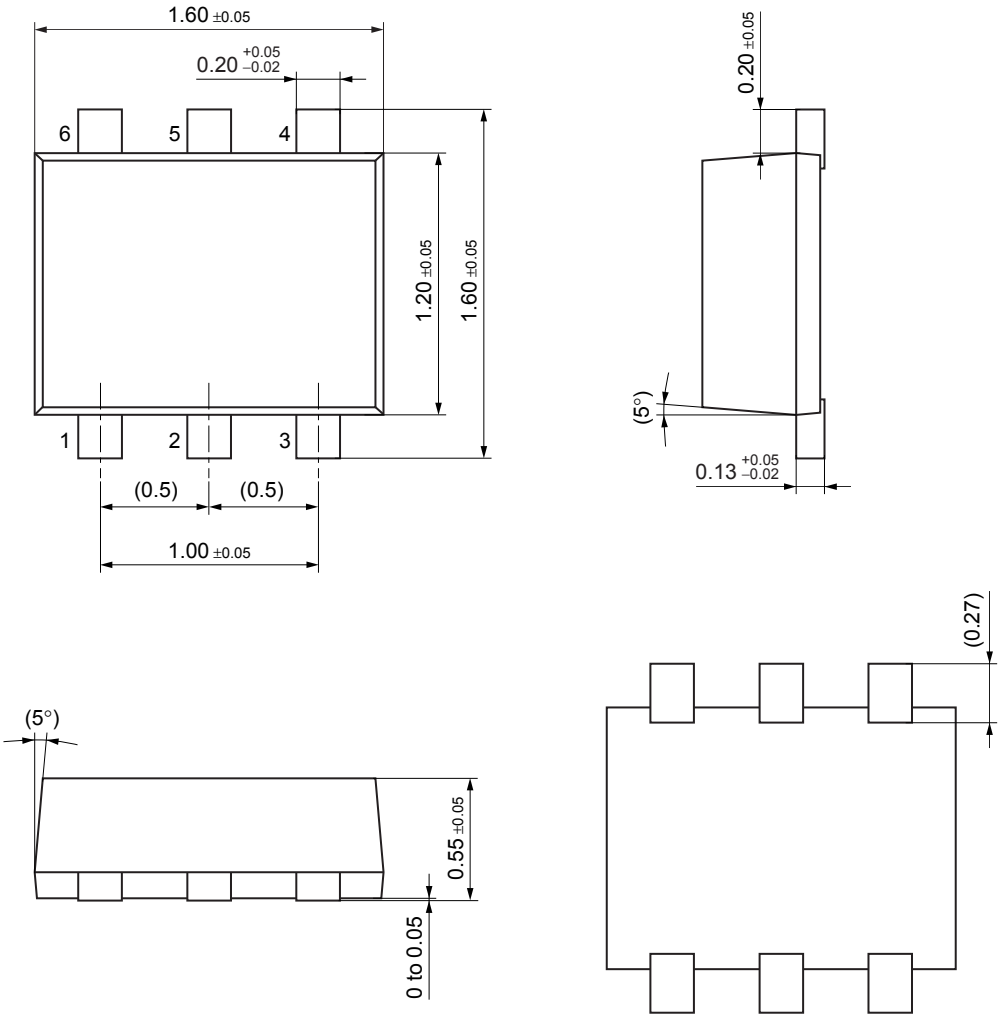
Characteristics charts of CCD

I_P — V_{DS}



SSMini6-F3-B

Unit: mm



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