

UP05C8PG

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)
- Costs can be reduced through downsizing of the equipment and reduction of the number of parts.

■ Basic Part Number

- 2SC3932G + CCD load device

■ Package

- Code
SSMini6-F2
- Pin Name

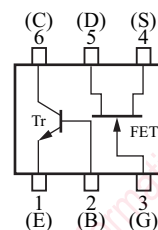
| | |
|------------|--------------|
| 1: Emitter | 4: Source |
| 2: Base | 5: Drain |
| 3: Gate | 6: Collector |

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

| | Parameter | Symbol | Rating | Unit |
|-----------------|---------------------------------------|------------------|-------------|------------------|
| Tr | 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 |
| | Total power dissipation * | P_{T} | 125 | mW |
| Overall | Junction temperature | T_{j} | 125 | $^\circ\text{C}$ |
| | Storage temperature | T_{stg} | -55 to +125 | $^\circ\text{C}$ |

■ Marking Symbol: 4X

■ Internal Connection



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

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

• Tr

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---------------------------------------|-----------|---|-----|-------|-----|------|
| Collector-base voltage (Emitter open) | V_{CBO} | $I_C = 100 \mu\text{A}, I_E = 0$ | 30 | | | V |
| Emitter-base voltage (Collector open) | V_{EBO} | $I_E = 10 \mu\text{A}, I_C = 0$ | 3 | | | V |
| Base-emitter voltage | V_{BE} | $V_{CE} = 10 \text{V}, I_C = 2 \text{mA}$ | | 720 | | mV |
| Forward current transfer ratio | h_{FE} | $V_{CE} = 10 \text{V}, I_C = 2 \text{mA}$ | 100 | | 250 | — |
| Transition frequency * | f_T | $V_{CB} = 10 \text{V}, I_E = -15 \text{mA}, f = 200 \text{MHz}$ | | 1 300 | | MHz |
| Power gain | G_P | $V_{CB} = 10 \text{V}, I_E = -1 \text{mA}, f = 100 \text{MHz}$ | | 20 | | dB |

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

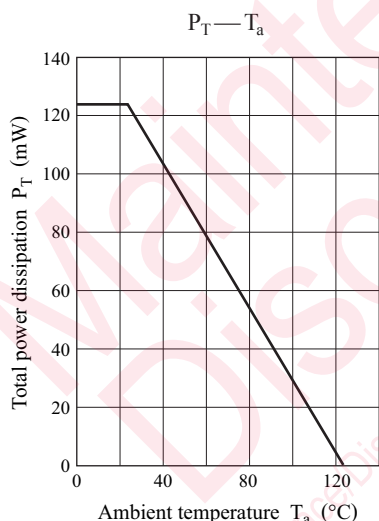
*: Pulse measurement

• CCD Load Device

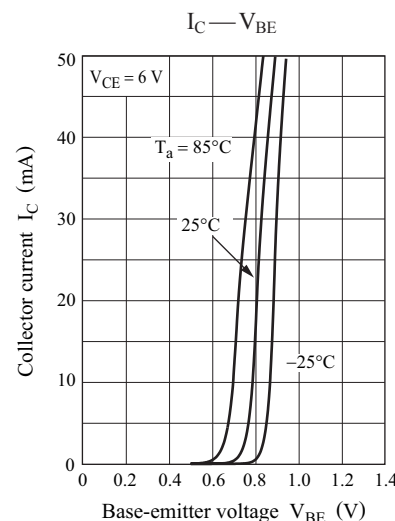
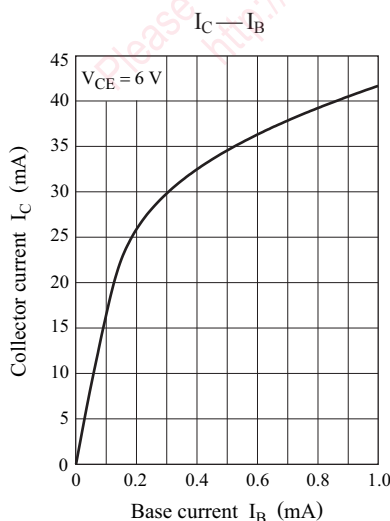
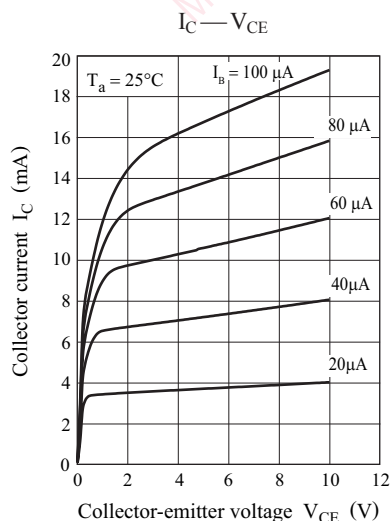
| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|-------------------|--------|--------------------------------|-----|------|-----|-----------|
| Pinch off current | I_P | $V_{DS} = 8 \text{V}, V_G = 0$ | 5.0 | | 7.0 | mA |
| Output impedance | Z_O | $V_{DS} = V, V_G = 0$ | | 0.02 | | $M\Omega$ |

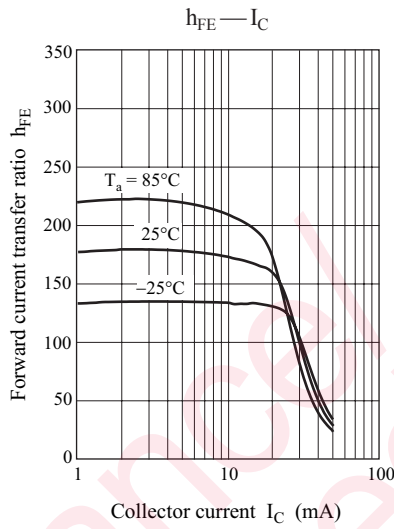
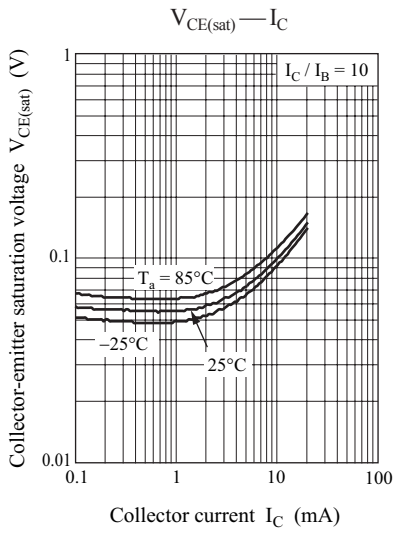
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Common characteristics chart

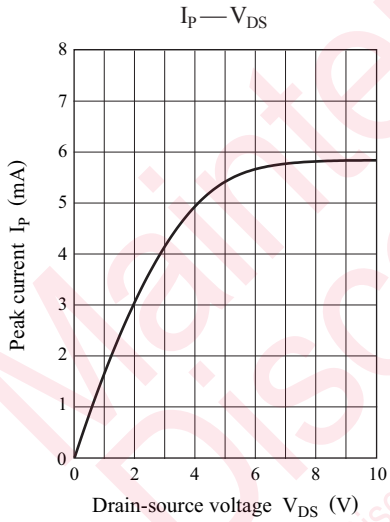


Characteristics charts of Tr



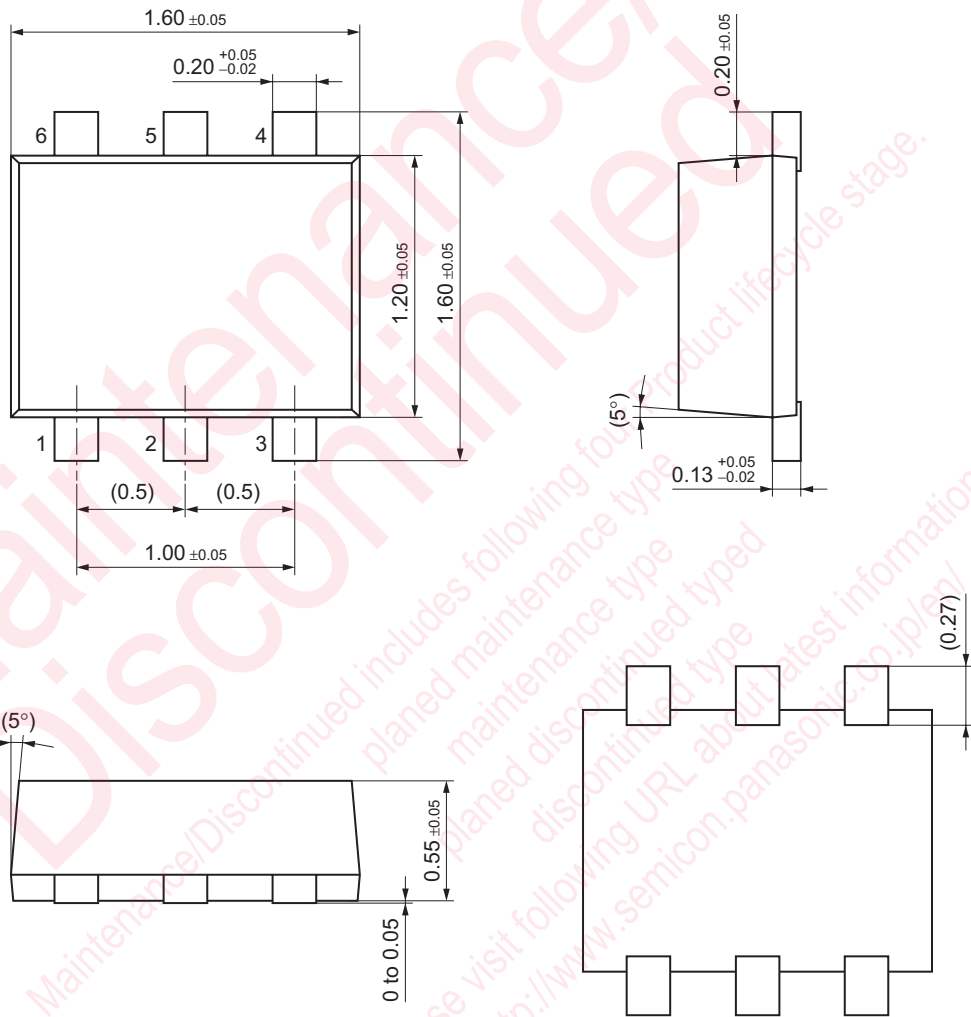


Characteristics charts of CCD load device



SSMini6-F2

Unit: mm



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