

**30A02CH**

Low-Frequency General-Purpose Amplifier Applications

An ON Semiconductor Company

Applications

- Low-frequency Amplifier, high-speed switching, small motor drive.

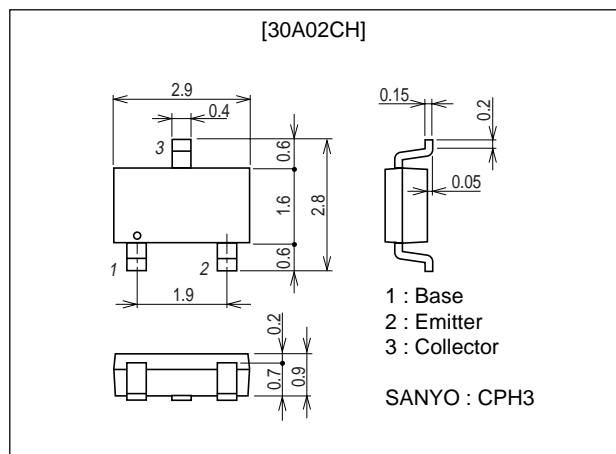
Features

- Large current capacitance.
- Low collector-to-emitter saturation voltage (resistance).
RCE(sat) typ=580mΩ[IC=0.7A, IB=35mA].
- Small ON-resistance (Ron).

Package Dimensions

unit : mm

2150A



Specifications

Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|------------------|--|-------------|------|
| Collector-to-Base Voltage | V _{CB0} | | -30 | V |
| Collector-to-Emitter Voltage | V _{CEO} | | -30 | V |
| Emitter-to-Base Voltage | V _{EBO} | | -5 | V |
| Collector Current | I _C | | -700 | mA |
| Collector Current (Pulse) | I _{CP} | | -1.4 | A |
| Collector Dissipation | P _C | Mounted on a ceramic board (600mm ² X0.8mm) | 700 | mW |
| Junction Temperature | T _J | | 150 | °C |
| Storage Temperature | T _{stg} | | -55 to +150 | °C |

Electrical Characteristics at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|----------------------|---|---------|------|------|------|
| | | | min | typ | max | |
| Collector Cutoff Current | I _{CB0} | V _{CB} =-30V, I _E =0 | | | -100 | nA |
| Emitter Cutoff Current | I _{EBO} | V _{EB} =-4V, I _C =0 | | | -100 | nA |
| DC Current Gain | h _{FE} | V _{CE} =-2V, I _C =-10mA | 200 | | 500 | |
| Gain-Bandwidth Product | f _T | V _{CE} =-10V, I _C =-50mA | | 520 | | MHz |
| Output Capacitance | C _{ob} | V _{CB} =-10V, f=1MHz | | 4.7 | | pF |
| Collector-to-Emitter Saturation Voltage | V _{CE(sat)} | I _C =-200mA, I _B =-10mA | | -110 | -220 | mV |
| Base-to-Emitter Saturation Voltage | V _{BE(sat)} | I _C =-200mA, I _B =-10mA | | -0.9 | -1.2 | V |

Marking : AL

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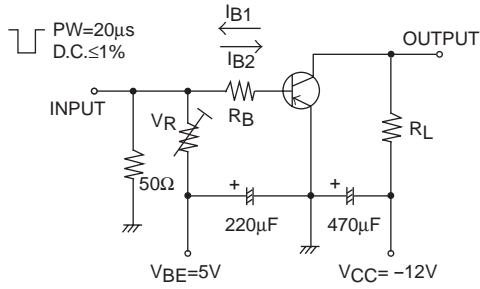
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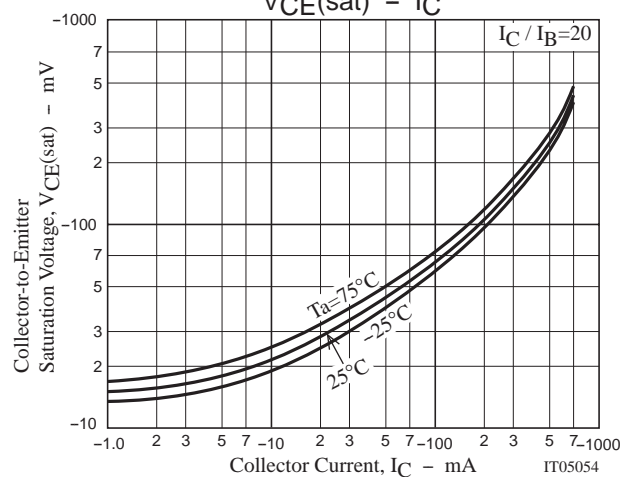
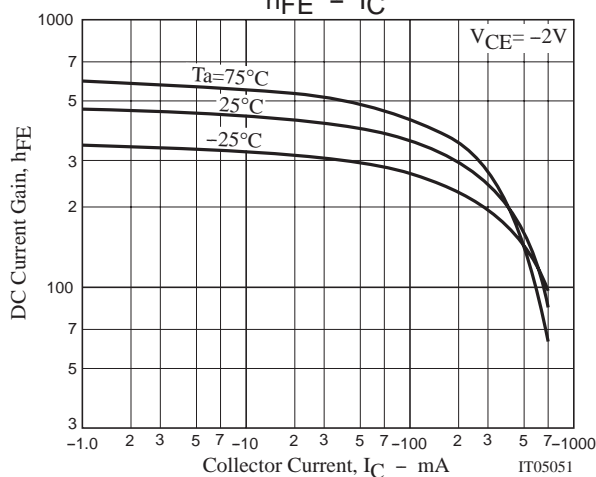
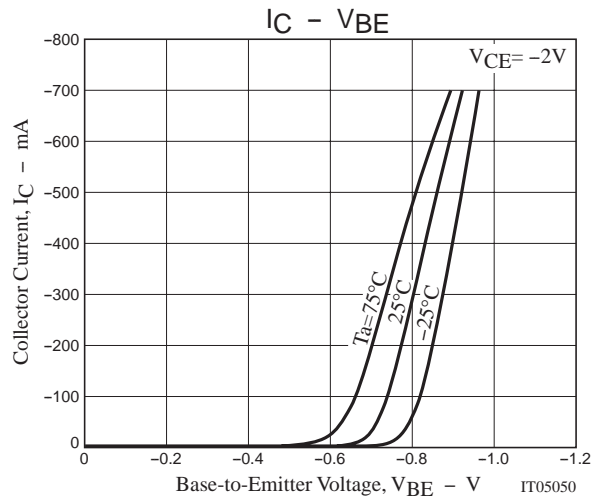
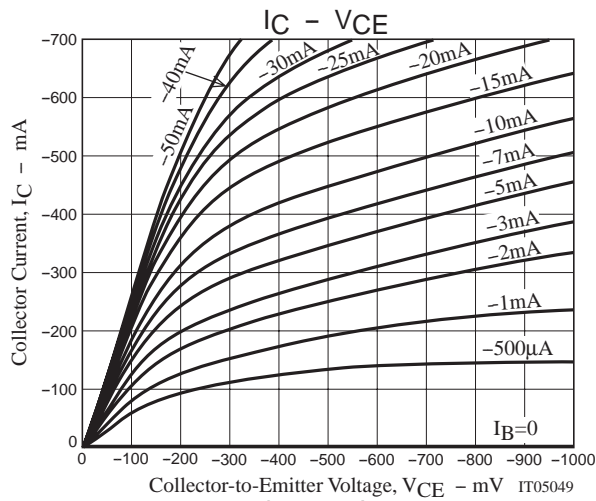
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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--|---------------|-------------------------------|---------|-----|-----|------|
| | | | min | typ | max | |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C = -10\mu A, I_E = 0$ | -30 | | | V |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C = -1mA, R_{BE} = \infty$ | -30 | | | V |
| Emitter-to-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E = -10\mu A, I_C = 0$ | -5 | | | V |
| Turn-ON Time | t_{on} | See specified Test Circuit. | | 35 | | ns |
| Storage Time | t_{stg} | See specified Test Circuit. | | 125 | | ns |
| Fall Time | t_f | See specified Test Circuit. | | 25 | | ns |

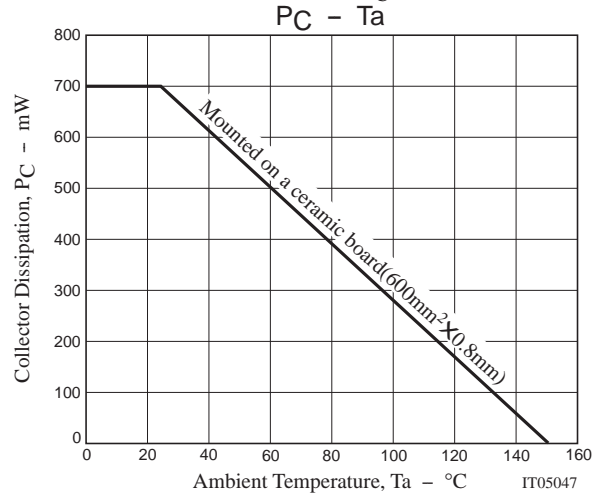
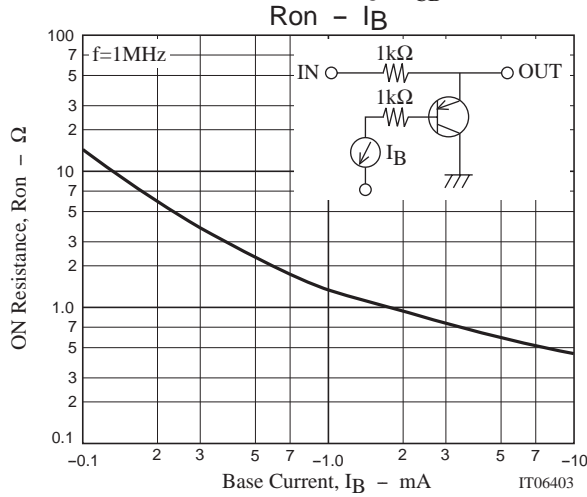
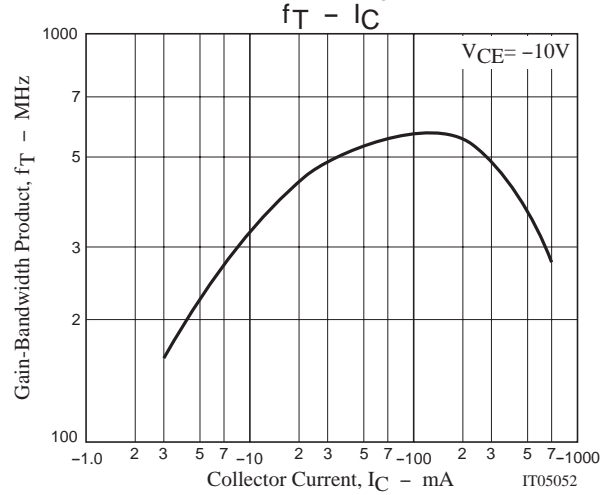
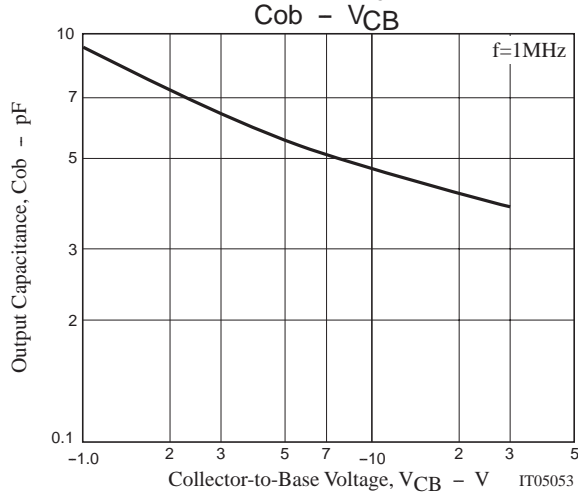
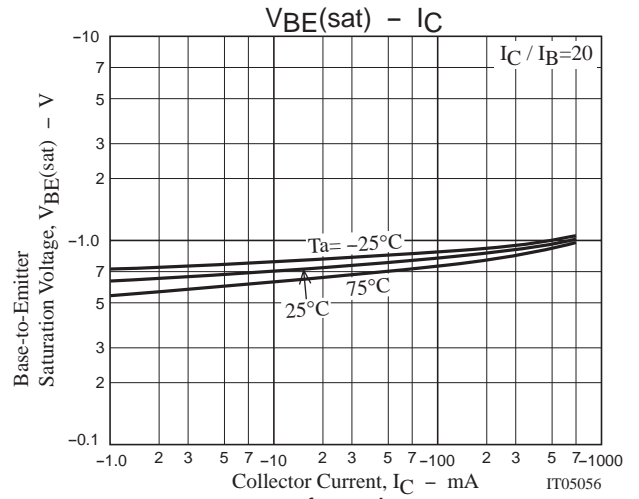
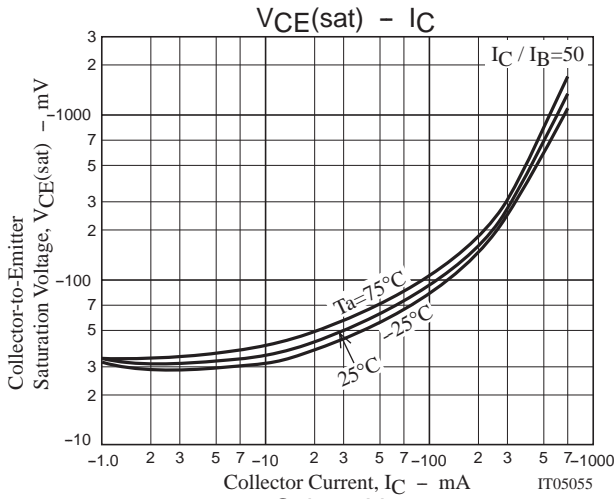
Switching Time Test Circuit



$$I_C = 20I_{B1} = -20I_{B2} = -300mA$$



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