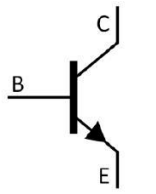
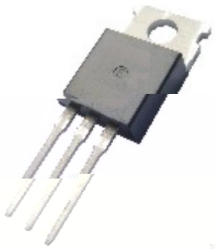
TO-220 NPN Silicon NPN transistor in a TO-220 Plastic Package.

TIP42

Complement to TIP42.

Medium power linear switching applications.



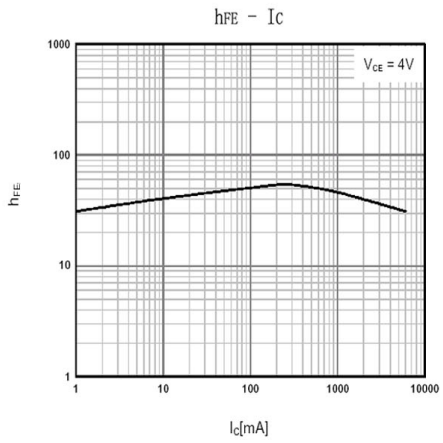



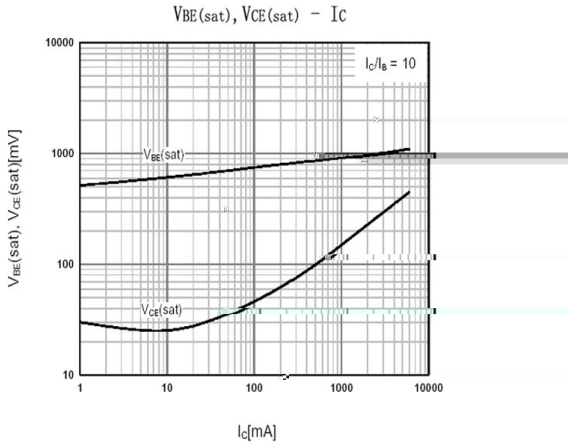
PIN1 Base PIN 2 Collector PIN 3 Emitter

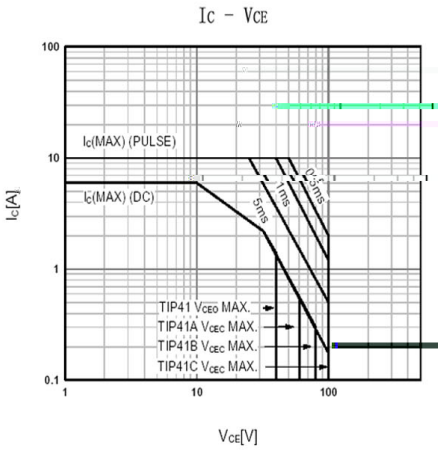
See Marking Instructions.

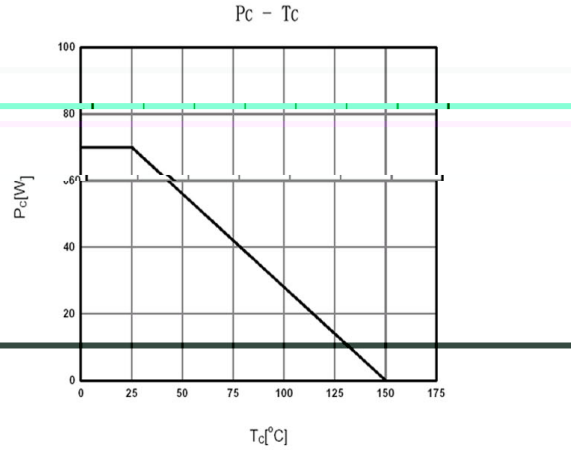
| Parameter | Symbol | Rating | | | | Unit |
|---|---|---|---|---|---|---|
| | | TIP41 | TIP41A | TIP41B | TIP41C | |
| Collector to Base Voltage | $V_{CBO}$ | 40 | 60 | 80 | 100 | V |
| Collector to Emitter Voltage | $V_{CEO}$ | 40 | 60 | 80 | 100 | V |
| Emitter to Base Voltage | $V_{EBO}$ | 5 | | | | V |
| Collector Current - Continuous | $I_C$ | 6 | | | | A |
| Peak Collector Current | $I_{CP}$ | 10 | | | | A |
| Base Current - Continuous | $I_B$ | 2 | | | | A |
| Collector Power Dissipation | $P_C$ | 2 | | | | W |
| Collector Power Dissipation | $P_C$ ($T_c$=25℃) | 65 | | | | W |
| Junction Temperature | $T_j$ | 150 | | | | ℃ |
| Storage Temperature Range | $T_{sag}$ | -55～150 | | | | ℃ |

| Parameter | Symbol | | Test Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|---|
| Collector to Emitter Breakdown Voltage | $V_{CEO}$ | TIP41 | $I_C$=30mA $I_B$=0 | 40 | | | V |
| | | TIP41A | | 60 | | | |
| | | TIP41B | | 80 | | | |
| | | TIP41C | | 100 | | | |
| Collector Cut-Off Current | $I_{CEO}$ | TIP41 TIP41A | $V_{CE}$=30V $I_B$=0 | | | 0.7 | mA |
| | | TIP41B TIP41C | $V_{CE}$=60V $I_B$=0 | | | | |
| Collector Cut-Off Current | $I_{CES}$ | TIP41 | $V_{CE}$=40V $V_{EB}$=0 | | | 400 | μA |
| | | TIP41A | $V_{CE}$=60V $V_{EB}$=0 | | | | |
| | | TIP41B | $V_{CE}$=80V $V_{EB}$=0 | | | | |
| | | TIP41C | $V_{CE}$=100V $V_{EB}$=0 | | | | |
| Emitter Cut-Off Current | $I_{EBO}$ | | $V_{EB}$=5V $I_C$=0 | | | 1 | mA |
| DC Current Gain | $h_{FE(1)}$ | | $V_{CE}$=4V $I_C$=3A | 15 | | 75 | |
| | $h_{FE(2)}$ | | $V_{CE}$=4V $I_C$=0.3A | 30 | | | |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | | $I_C$=6A $I_B$=0.6A | | | 1.5 | V |
| Base to Emitter Voltage | $V_{BE}$ | | $I_C$=6A $V_{CE}$=4V | | | 2 | V |
| Transition Frequency | $f_T$ | | $V_{CE}$=10V $I_C$=500mA | 3 | | | MHz |

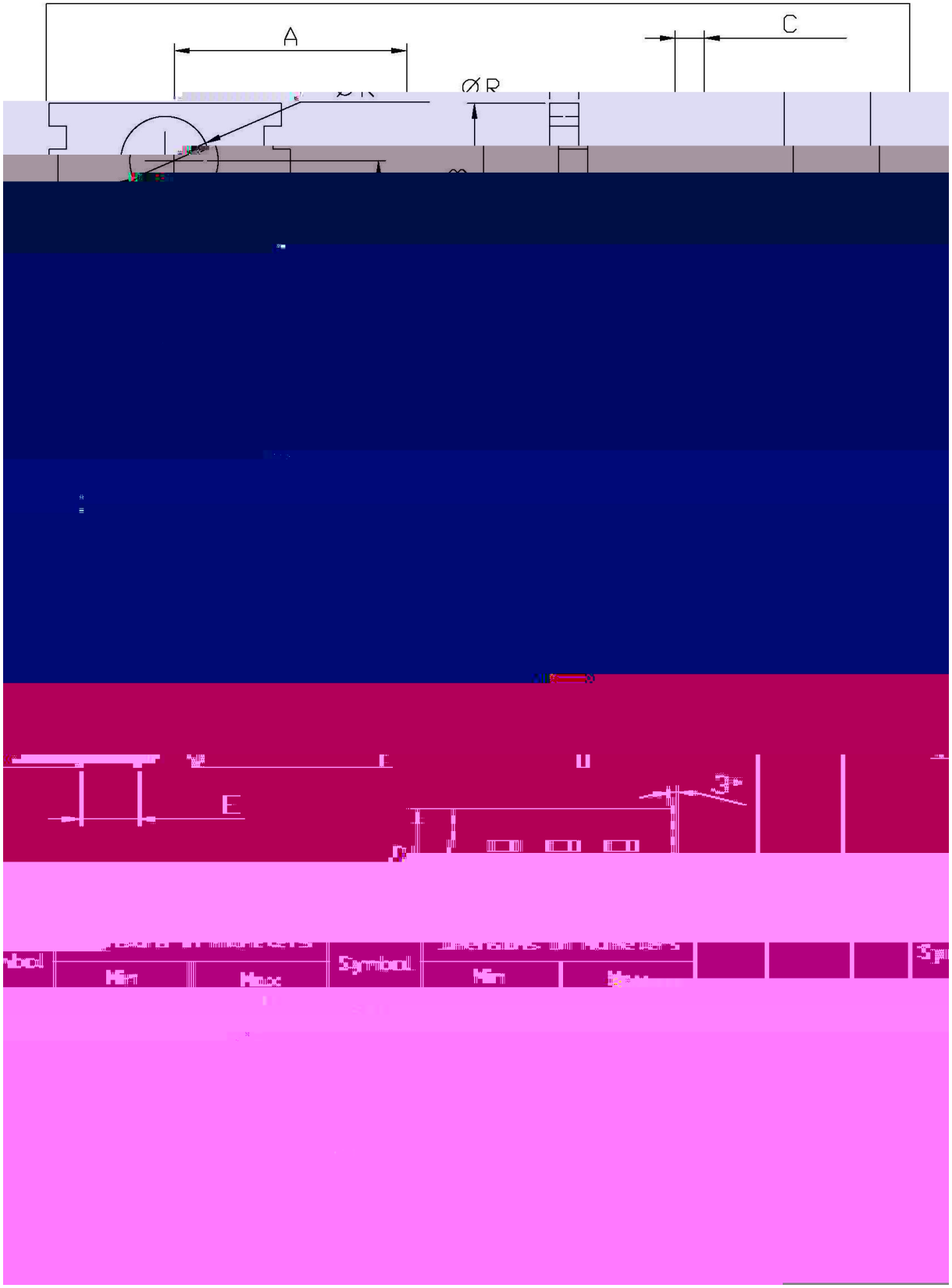

hFE - Ic
VCE = 4V
hFE
1000
100
10
1
1
10
100
1000
10000
IC[mA]


VBE(sat), VCE(sat) - Ic
IC/IB = 10
VBE(sat)
VCE(sat)
VBE(sat), VCE(sat)[mV]
10000
1000
100
10
1
10
100
1000
10000
IC[mA]


Ic - VCE
IC(MAX) (PULSE)
IC(MAX) (DC)
0.5ms
1ms
5ms
TIP41 VCEO MAX.
TIP41A VCEO MAX.
TIP41B VCEO MAX.
TIP41C VCEO MAX.
IC[A]
100
10
1
0.1
1
10
100
VCE[V]


Pc - Tc
PC[W]
100
80
60
40
20
0
0
25
50
75
100
125
150
175
TC[°C]

TO-220 单位：mm



Rev. G Nov.-2017

| | | | |
|---|---|---|---|
| | | Note: | |
| 1 | 25 150 60 90sec; | 1.Preheating:25~150 , Time:60~90sec. | |
| 2 | 255±5 5±0.5sec; | 2.Peak Temp.:255±5 , Duration:5±0.5sec. | |
| 3 | 2 10 /sec. | 3. Cooling Speed: 2~10 /sec. | |

| | | | |
|---|---|---|---|
| 270±5 | 10±1 sec. | Temp.:270±5 | Time:10±1 sec |

/ BULK

| Package Type 封装形式 | Units 包装数量 | | | | | Dimension 包装尺寸 (unit: $mm^3$) | | |
|---|---|---|---|---|---|---|---|---|
| | Units/Bag 只/袋 | Bags/Inner Box 袋/盒 | Units/Inner Box 只/盒 | Inner Boxes/Outer Box 盒/箱 | Units/Outer Box 只/箱 | Bag 袋 | Inner Box 盒 | Outer Box 箱 |
| TO-220/F | 200 | 10 | 2,000 | 5 | 10,000 | 135×190 | 237×172×102 | 560×245×195 |

/ TUBE

| Package Type 封装形式 | Units 包装数量 | | | | | Dimension 包装尺寸 (unit: $mm^3$) | | |
|---|---|---|---|---|---|---|---|---|
| | Units/Tube 只/套管 | Tubes/Inner Box 套管/盒 | Units/Inner Box 只/盒 | Inner Boxes/Outer Box 盒/箱 | Units/Outer Box 只/箱 | Tube 套管 | Inner Box 盒 | Outer Box 箱 |
| TO-220/F | 50 | 20 | 1,000 | 5 | 5,000 | 532×31.4×5.5 | 555×164×50 | 575×290×180 |