

2SD640

SILICON NPN TRIPLE DIFFUSED TYPE

HIGH VOLTAGE SWITCHING APPLICATIONS.
HIGH POWER AMPLIFIER APPLICATIONS.

FEATURES:

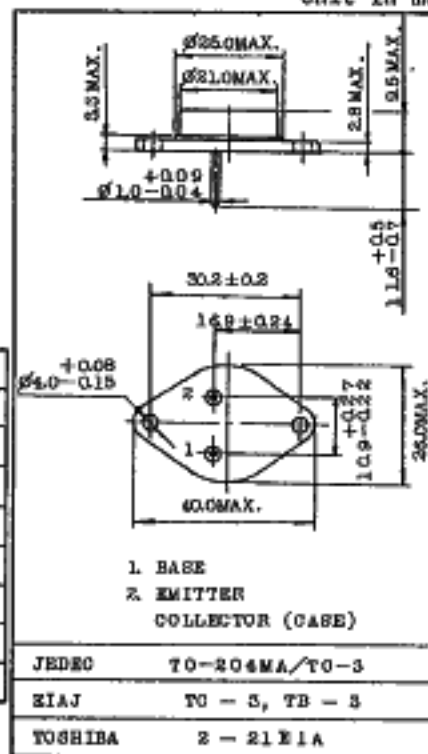
- High Voltage : $V_{CEO}=400V$
- Low Saturation Voltage : $V_{CE(sat)}=1.5V$ (Max.)
($I_C=5A, I_B=1A$)

MAXIMUM RATINGS ($T_a=25^\circ C$)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|---|-----------|----------------|------------|
| Collector-Base Voltage | V_{CBO} | 600 | V |
| Collector-Emmitter Voltage | V_{CEO} | 400 | V |
| Emitter-Base Voltage | V_{EBO} | 5 | V |
| Collector Current | I_C | 7 | A |
| Base Current | I_B | 2 | A |
| Collector Power Dissipation ($T_C=25^\circ C$) | P_C | 100 | W |
| Junction Temperature | T_j | 150 | $^\circ C$ |
| Storage Temperature Range | T_{stg} | $-65 \sim 150$ | $^\circ C$ |

INDUSTRIAL APPLICATIONS

Unit in mm



Mounting Kit No.AC73
Weight : 15.8g

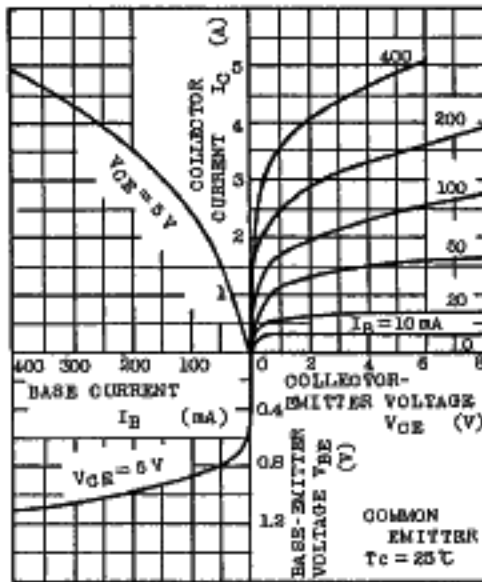
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ C$)

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|---------------------------------------|---------------|-----------------------------|------|------|------|---------|
| Collector Cut-off Current | I_{CBO} | $V_{CB}=500V, I_B=0$ | - | - | 100 | μA |
| Emitter Cut-off Current | I_{EBO} | $V_{EB}=5V, I_C=0$ | - | - | 1 | mA |
| Collector-Emmitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C=10mA, I_B=0$ | 400 | - | - | V |
| DC Current Gain | h_{FE} | $V_{CE}=5V, I_C=1A$ | 25 | - | 140 | |
| Collector-Emmitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=5A, I_B=1A$ | - | - | 1.5 | V |
| Base-Emmitter Saturation Voltage | $V_{BE(sat)}$ | $I_C=5A, I_B=1A$ | - | - | 2.0 | V |
| Transition Frequency | f_T | $V_{CE}=10V, I_C=0.5A$ | - | 3 | - | MHz |
| Collector Output Capacitance | C_{ob} | $V_{CB}=50V, I_E=0, f=1MHz$ | - | 70 | - | pF |
| Switching Time | Turn-on Time | t_{on} | - | 1.0 | - | μs |
| | Storage Time | t_{stg} | - | 3.0 | - | |
| | Fall Time | t_f | - | 0.6 | - | |

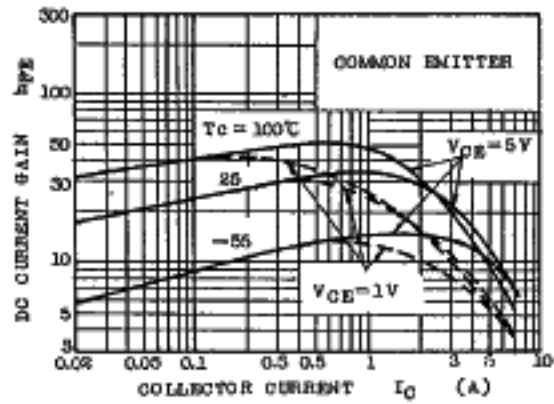
$I_{B1} = I_{B2} = 0.5A$
DUTY CYCLE $\geq 1\%$

TOSHIBA CORPORATION

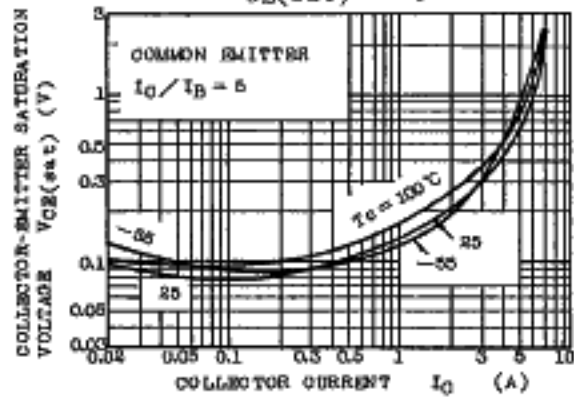
STATIC CHARACTERISTICS



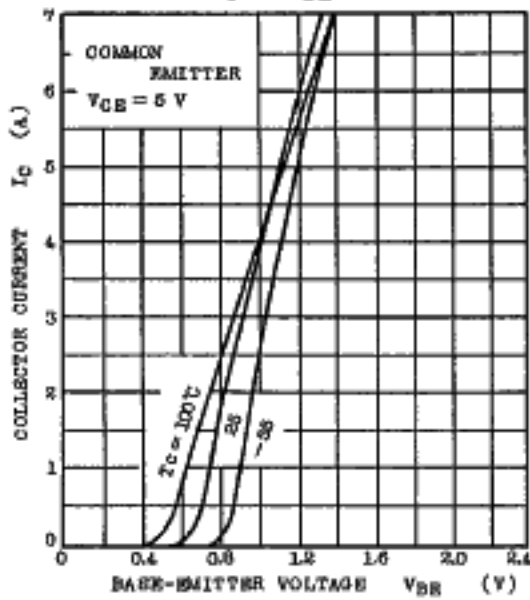
$h_{FE} - I_C$



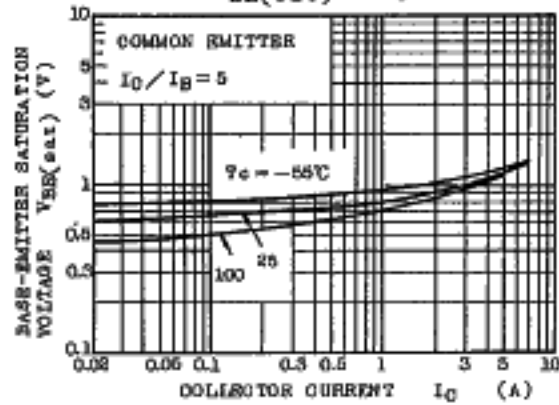
$V_{CE(sat)} - I_C$



$I_C - V_{BE}$



$V_{BE(sat)} - I_C$



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