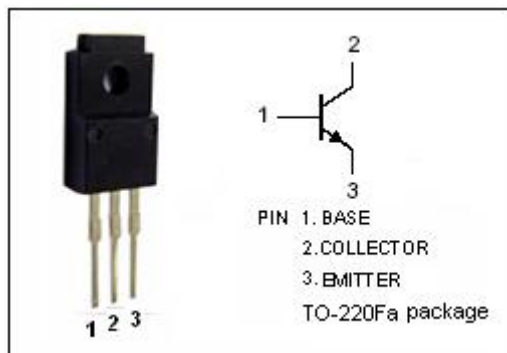


isc Silicon NPN Power Transistor
2SC3942
DESCRIPTION

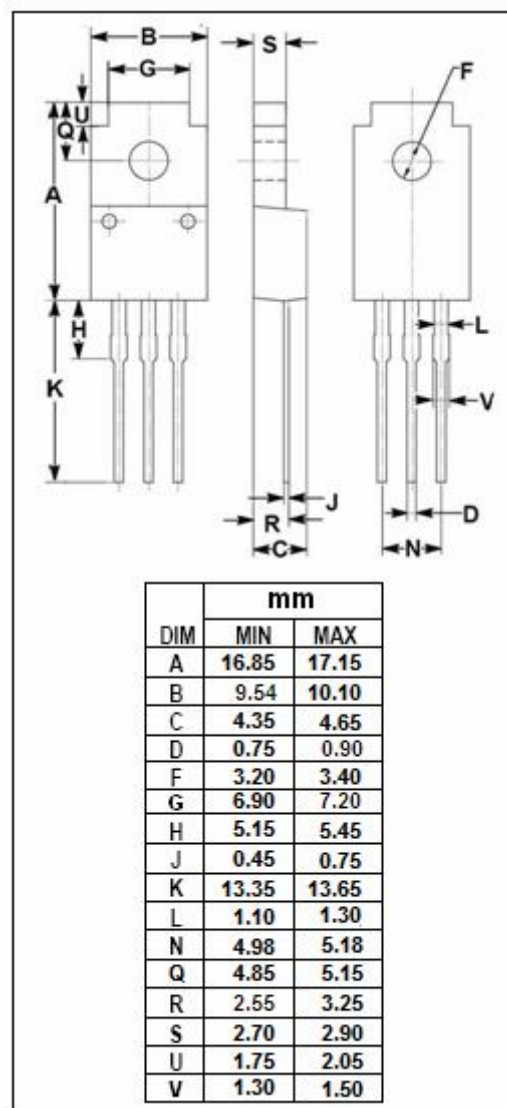
- High Collector-Emitter Breakdown Voltage
: $V_{(BR)CEO} = 300V(\text{Min})$
- Good Linearity of h_{FE}
- Low Saturation Voltage
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for color TV chroma output applications.


ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|---------|------------------|
| V_{CBO} | Collector-Base Voltage | 300 | V |
| V_{CEO} | Collector-Emitter Voltage | 300 | V |
| V_{EBO} | Emitter-Base Voltage | 7 | V |
| I_C | Collector Current-Continuous | 0.1 | A |
| I_{CM} | Collector Current-Peak | 0.2 | A |
| P_C | Collector Power Dissipation @ $T_c=25^\circ\text{C}$ | 10 | W |
| | Collector Power Dissipation @ $T_a=25^\circ\text{C}$ | 2 | |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature Range | -55~150 | $^\circ\text{C}$ |



isc Silicon NPN Power Transistor

2SC3942

ELECTRICAL CHARACTERISTICS

T_C=25°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|----------------------|--------------------------------------|---|-----|------|-----|------|
| V _{(BR)CBO} | Collector-Base Breakdown Voltage | I _C = 10 μA; I _E = 0 | 300 | | | V |
| V _{(BR)CEO} | Collector-Emitter Breakdown Voltage | I _C = 1mA; I _B = 0 | 300 | | | V |
| V _{(BR)EBO} | Emitter-Base Breakdown Voltage | I _E = 10 μA; I _C = 0 | 7 | | | V |
| V _{CE(sat)} | Collector-Emitter Saturation Voltage | I _C = 30mA; I _B = 3mA | | | 1.5 | V |
| V _{BE(on)} | Base-Emitter On Voltage | I _C = 30mA; V _{CE} = 10V | | | 1.2 | V |
| I _{CEO} | Collector Cutoff Current | V _{CE} = 200V; I _B = 0 | | | 10 | μA |
| h _{FE} | DC Current Gain | I _C = 5mA; V _{CE} = 50V | 50 | | 250 | |
| f _T | Current-Gain—Bandwidth Product | I _C = 20mA; V _{CE} = 30V | 70 | | | MHz |
| C _{OB} | Output Capacitance | I _E = 0; V _{CB} = 30V, f _{test} = 1MHz | | 2.7 | | pF |

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