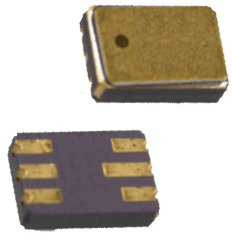
# Surface Mount Dual NPN Transistor

## 2N5794U

## Obsolete (2N5794UTX, 2N5794UTXV)



### Features:

- Ceramic 6 pin surface mount package
- Small package to minimize circuit board area
- Hermetically sealed
- Electrical performance similar to dual 2N2222
- Processed per MIL-PRF-19500/495

### Description:

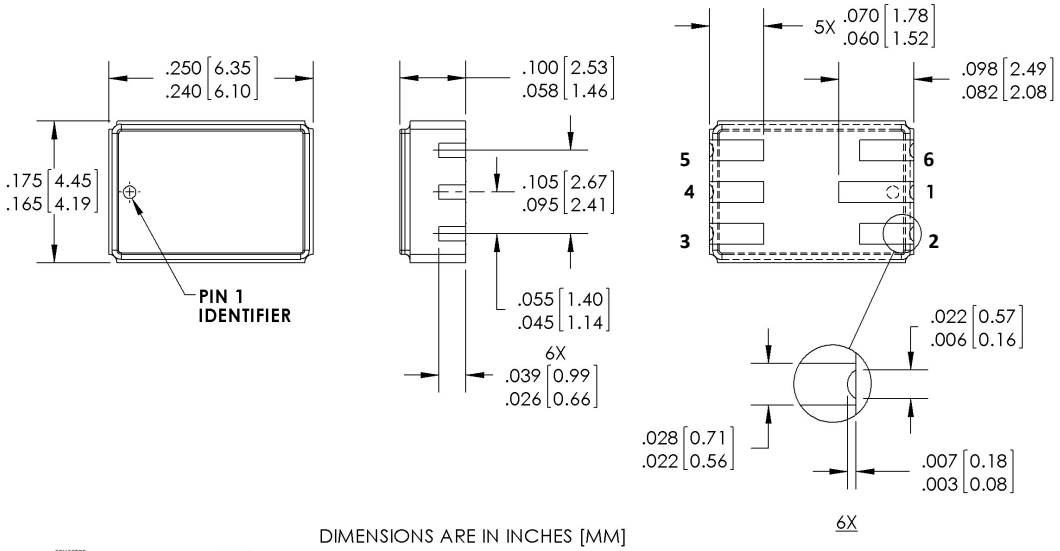
The 2N5794U (TX, TXV - Obsolete) are hermetically sealed, ceramic surface mount devices, consisting of two individual silicon NPN transistors. The six pin ceramic package is ideal for designs where board space and device weight are important design considerations.

Typical screening and lot acceptance tests are per MIL-PRF-19500/495. The burn-in condition is $V_{CB}$ = 30 V, $P_D$ = 300 mW each transistor, $T_A$ = 25° C. Refer to MIL-PRF-19500/495 for complete requirements.

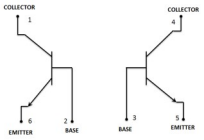
When ordering parts without processing, do not use the TX or TXV suffix.

### Applications:

- General switching
- Amplification
- Signal processing
- Radio transmission
- Logic gates




DIMENSIONS ARE IN INCHES [MM]




| Pin # | LED | Pin # | Transistor |
|---|---|---|---|
| 3 | Base | 2 | Base |
| 4 | Collector | 1 | Collector |
| 5 | Emitter | 6 | Emitter |

General Note
TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

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TT Electronics | OPTEK Technology
2900 E. Plano Pkwy, Plano, TX 75074 | Ph: +1 972 323 2200
www.ttelectronics.com | sensors@ttelectronics.com

## Electrical Specifications

**Absolute Maximum Ratings** ($T_A$ = 25° C unless otherwise noted)

| | |
|---|---|
| Collector-Emitter Voltage | 45 V |
| Collector-Base Voltage | 75 V |
| Emitter-Base Voltage | 6 V |
| Collector Current-Continuous | 600 mA |
| Operating Junction Temperature ($T_J$) | -65° C to +200° C |
| Storage Junction Temperature ($T_{stg}$) | -65° C to +200° C |
| Power Dissipation @ $T_A$ = 25° C | 0.5 W |
| Power Dissipation @ Tc = 25° C | 0.6 W(1) |
| Soldering Temperature (vapor phase reflow for 30 seconds) | 215° C |
| Soldering Temperature (heated collet for 5 seconds) | 260° C |

**Electrical Characteristics** ($T_A$ = 25° C unless otherwise noted)

| SYMBOL | PARAMETER | MIN | MAX | UNITS | TEST CONDITIONS |
|---|---|---|---|---|---|
| **OFF CHARACTERISTICS** | | | | | |
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage | 40 | - | V | $I_C$ = 10 mA(1) |
| $I_{CBO1}$ | Collector-Base Cutoff Current | - | 10 | µA | $V_{CB}$ = 75 V |
| $I_{CBO2}$ | Collector-Base Cutoff Current | - | 10 | nA | $V_{CB}$ = 50 V |
| $I_{CBO3}$ | Collector-Base Cutoff Current | - | 10 | µA | $V_{BC}$ = 50 V, $T_A$ = 150° C |
| $I_{EBO1}$ | Emitter-Base Breakdown Voltage | - | 10 | V | $V_{EB}$ = 6 V |
| $I_{EBO2}$ | Emitter-Base Cutoff Current | - | 10 | nA | $V_{EB}$ = 4 V |
| $h_{FE1}$ | Forward-Current Transfer Ratio | 35 | - | - | $V_{CE}$ = 10 V, $I_C$ = 0.1 mA |
| $h_{FE2}$ | | 50 | - | - | $V_{CE}$ = 10 V, $I_C$ = 1.0 mA |
| $h_{FE3}$ | | 75 | - | - | $V_{CE}$ = 10 V, $I_C$ = 10 mA(1) |
| $h_{FE4}$ | | 100 | 300 | - | $V_{CE}$ = 10 V, $I_C$ = 150 mA(1) |
| $h_{FE5}$ | | 40 | - | - | $V_{CE}$ = 10 V, $I_C$ = 300 mA(1) |
| $h_{FE6}$ | | 50 | - | - | $V_{CE}$ = 1.0 V, $I_C$ = 150 mA(1) |
| $h_{FE7}$ | | 40 | - | - | $V_{CE}$ = 10 V, $I_C$ = 150 mA, $T_A$ = -55° C(1) |


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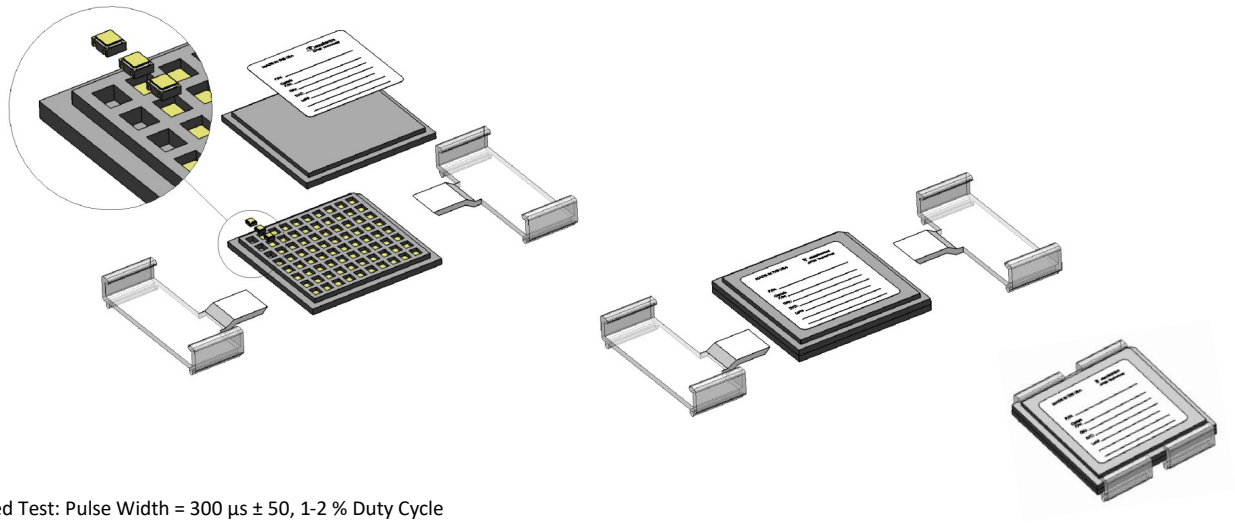
## Electrical Specifications

**Electrical Characteristics** ($T_A$ = 25° C unless otherwise noted)

| SYMBOL | PARAMETER | MIN | MAX | UNITS | TEST CONDITIONS |
|---|---|---|---|---|---|
| **Off Characteristics continued** | | | | | |
| $V_{CE(SAT)1}$ | Collector-Emitter Saturation Voltage | - | 0.3 | V | $I_C$ = 150 mA, $I_B$ = 15 mA[(1)] |
| $V_{CE(SAT)2}$ | Collector-Emitter Saturation Voltage | - | 0.9 | V | $I_C$ = 300 mA, $I_B$ = 30 mA[(1)] |
| $V_{BE(SAT)1}$ | Base-Emitter Saturation Voltage | 0.6 | 1.2 | V | $I_C$ = 150 mA, $I_B$ = 15 mA[(1)] |
| $V_{BE(SAT)1}$ | Base-Emitter Saturation Voltage | - | 1.8 | V | $I_C$ = 300 mA, $I_B$ = 30 mA[(1)] |
| $\lvert h_{fe} \rvert$ | Magnitude of Small-Signal Short-Circuit Forward Current Transfer Ratio | 2 | 10 | - | $V_{CE}$ = 20 V, $I_C$ = 20 mA, f = 100 MHz |
| $C_{obo}$ | Open Circuit Output Capacitance | - | 8 | pF | $V_{CB}$ = 10 V, $I_E$ = 0, 100 kHZ ≤ f ≤ 1 MHz |
| $C_{ibo}$ | Input Capacitance (output open) | - | 33 | pF | $V_{EB}$ = 0.5 V, $I_C$ = 0, 100 kHZ ≤ f ≤ 1 MHz |
| $t_{on}$ | Turn-on Time | - | 45 | ns | $V_{CC}$ = 30 V, $I_C$ = 150 mA, $I_{B1}$ = 15 mA, PW = 200 ns |
| $t_{off}$ | Turn-off Time | - | 310 | ns | $V_{CC}$ = 30 V, $I_C$ = 150 mA, $I_{B1}$ = $I_{B2}$ = 15 mA, PW = 10 µs |

### Standard Packaging:

Waffle Pack



Note:
1. Pulsed Test: Pulse Width = 300 µs ± 50, 1-2 % Duty Cycle


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