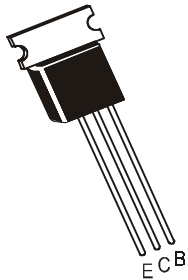


PNP/NPN COMPLEMENTARY SILICON EPITAXIAL TRANSISTOR

**CSA928A (PNP)
 CSC2328A (NPN)
 TO-237
 BCE**



3W AUDIO Output Amplifier Application

ABSOLUTE MAXIMUM RATINGS(Ta=25deg C unless otherwise specified)

| DESCRIPTION | SYMBOL | VALUE | UNIT |
|--|----------|-------------|-------|
| Collector -Base Voltage | VCBO | 30 | V |
| Collector -Emitter Voltage | VCEO | 30 | V |
| Emitter Base Voltage | VEBO | 5.0 | V |
| Collector Current Continuous | IC | 1.5 | A |
| Peak | ICM | 2.0 | A |
| Power Dissipation | PD | 1.0 | W |
| Operating And Storage Junction Temperature Range | Tj, Tstg | -55 to +150 | deg C |

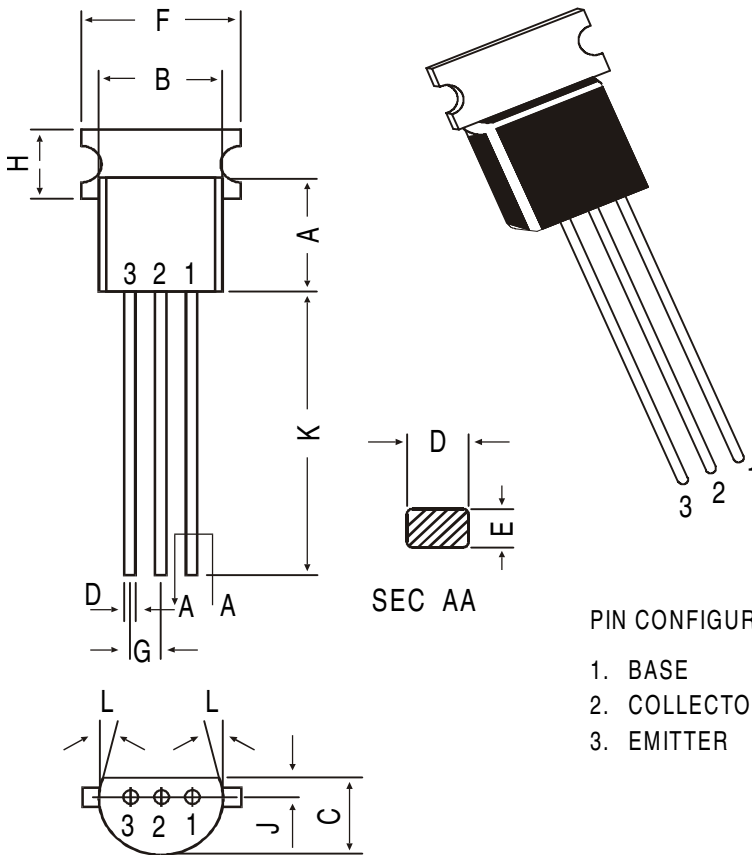
ELECTRICAL CHARACTERISTICS (Ta=25 deg C Unless Otherwise Specified)

| DESCRIPTION | SYMBOL | TEST CONDITION | MIN | TYP | MAX | UNIT |
|--------------------------------------|------------|-------------------|-----|-----|-----|------|
| Collector -Emitter Voltage | VCEO | IC=10mA, IB=0 | 30 | - | - | V |
| Collector -Base Voltage | VCBO | IC=100uA, IE=0 | 30 | - | - | V |
| Emitter Base Voltage | VEBO | IE=1mA, IC=0 | 5.0 | - | - | V |
| Collector Cut off Current | ICBO | VCB=30V, IE=0 | - | - | 100 | nA |
| Emitter Cut off Current | IEBO | VEB=5V, IC=0 | - | - | 100 | nA |
| DC Current Gain | hFE* | IC=500mA, VCE=2V | 100 | - | 320 | |
| Collector Emitter Saturation Voltage | VCE(Sat) * | IC=1.5A, IB=30mA | - | - | 2.0 | V |
| Base Emitter on Voltage | VBE(on)* | IC=500mA, VCE=2V | - | - | 1.0 | V |
| Dynamic Characteristics | | | | | | |
| Output Capacitance | Cob | NPN VCB=10V, IE=0 | - | 30 | - | pF |
| | | PNP f=1MHz | - | 48 | - | pF |
| Gain Bandwidth Product | ft | VCE=2V, IC=500mA, | - | 120 | - | MHz |

| CLASSIFICATION | O | Y |
|----------------|---------|---------|
| hFE * | 100-200 | 160-320 |

*Pulse Test : Pulse Width =300us, Duty Cycle=2%

TO-237 Plastic Package



PIN CONFIGURATION

1. BASE
2. COLLECTOR
3. EMITTER

All dimensions in mm.

| DIM | MIN. | MAX. |
|-----|-------|------|
| A | 4.32 | 5.33 |
| B | 4.45 | 5.20 |
| C | 3.18 | 4.19 |
| D | 0.41 | 0.55 |
| E | 0.35 | 0.50 |
| F | — | 5.40 |
| G | 1.14 | 1.40 |
| H | — | 2.54 |
| K | 12.70 | — |
| L | 5 DEG | |
| J | 1.14 | 1.53 |

Packing Detail

| PACKAGE | STANDARD PACK | | INNER CARTON BOX | | OUTER CARTON BOX | | |
|-------------|---------------|----------------|-------------------|------|-------------------|-------|----------|
| | Details | Net Weight/Qty | Size | Qty | Size | Qty | Gr Wt |
| TO-237 Bulk | 1K/polybag | 240 gm/1K pcs | 3" x 7.5" x 7.5" | 5.0K | 17" x 15" x 13.5" | 80.0K | 26.2 kgs |
| TO-237 T&A | 2K/ammo box | 725 gm/2K pcs | 12.5" x 8" x 1.8" | 2.0K | 17" x 15" x 13.5" | 32.0K | 13.8 kgs |

Disclaimer

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