**SOT-23 Formed SMD Package** **CSA1162**

# *LOW FREQUENCY GENERAL PURPOSE AMPLIFIER TRANSISTOR*

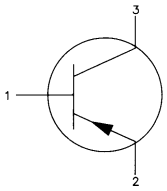
*P-N-P transistor*

**Marking**

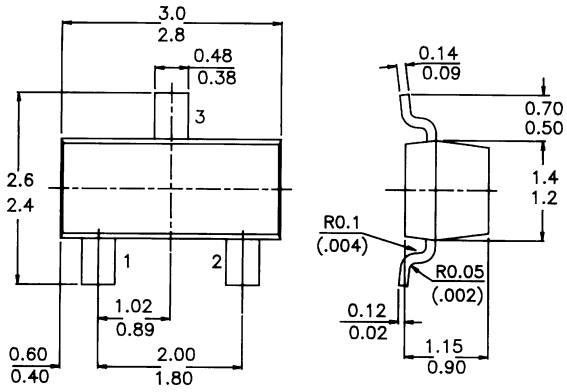
CSA1162Y–3E
CSA1162GR(G)–3F

**Pin configuration**

1 = BASE
2 = EMITTER
3 = COLLECTOR




*PACKAGE OUTLINE DETAILS*
*ALL DIMENSIONS IN mm*




***ABSOLUTE MAXIMUM RATINGS***

| | | | |
|---|---|---|---|
| *Collector-base voltage (open emitter)* | $-V_{CBO}$ | *max.* | *50 V* |
| *Collector-emitter voltage (open base)* | $-V_{CEO}$ | *max.* | *50 V* |
| *Emitter-base voltage (open collector)* | $-V_{EBO}$ | *max.* | *5 V* |
| *Collector current (d.c.)* | $-I_C$ | *max.* | *150 mA* |
| *Total power dissipation at $T_{amb}$ = 25°C* | $P_{tot}$ | *max.* | *150 mW* |
| *Junction temperature* | $T_j$ | *max.* | *150 ° C* |
| *D.C. current gain* | | | |
| *$-I_C$ = 2 mA; $-V_{CE}$ = 6V* | $h_{FE}$ | *min.* | *70* |
| | | *max.* | *400* |

***RATINGS*** *(at $T_A$ = 25°C unless otherwise specified)*

| | | | |
|---|---|---|---|
| *Limiting values* | | | |
| *Collector-base voltage (open emitter)* | $-V_{CBO}$ | *max.* | *50 V* |
| *Collector-emitter voltage (open base)* | $-V_{CEO}$ | *max.* | *50 V* |
| *Emitter-base voltage (open collector)* | $-V_{EBO}$ | *max.* | *5 V* |
| *Collector current (d.c.)* | $-I_C$ | *max.* | *150 mA* |
| *Base current* | $-I_B$ | *max.* | *30 mA* |

| | | | |
|---|---|---|---|
| *Total power dissipation at $T_{amb}$ = 25°C* | $P_{tot}$ | *max.* | *150 mW* |
| *Storage temperature* | *Tstg* | *–50 to +150* | *° C* |
| *Junction temperature* | $T_j$ | *max.* | *150 ° C* |

***CHARACTERISTICS*** *(at $T_A$ = 25°C unless otherwise specified)*

| | | | |
|---|---|---|---|
| *Collector-emitter breakdown voltage* | | | |
| *$–I_C$ = 1 mA; $I_B$ = 0* | $–V_{(BR)CEO}$ | *min* | *50 V* |
| *Collector cut-off current* | | | |
| *$–V_{CB}$ = 50 V; $I_E$ = 0* | $–I_{CBO}$ | *max.* | *100 nA* |
| *Emitter cut-off current* | | | |
| *$V_{EB}$ = 5 V; $I_C$ = 0* | $I_{EBO}$ | *max.* | *100 nA* |
| *Saturation voltage* | | | |
| *$–I_C$ = 100 mA; $–I_B$ = 10 mA* | $–V_{CEsat}$ | *max.* | *0.3 V* |
| *D.C. current gain* | | | |
| *$I_C$ = 2 mA; $–V_{CE}$ = 6 V* | $h_{FE}$ | *min.* | *70* |
| | | *max.* | *400* |
| | *Y* | *min.* | *120* |
| | | *max.* | *240* |
| | *GR(G)* | *min.* | *200* |
| | | *max.* | *400* |
| *Transition frequency* | | | |
| *$V_{CE}$ = 10 V; $I_C$ = 1 mA* | $f_T$ | *min.* | *80 MHz* |
| *Collector output capacitance* | | | |
| *$V_{CB}$ = 10 V; $I_E$ = 0; f = 1 MHz* | $C_{ob}$ | *max.* | *7 pF* |
| *Noise figure* | | | |
| *$V_{CE}$ = 6 V; $I_C$ = 0.1 mA* | | | |
| *f = 1 kHz; $R_g$ = 10 kW* | $N_F$ | *max.* | *10 dB* |

## Notes

## Disclaimer

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