

LOW FREQUENCY GENERAL PURPOSE AMPLIFIER TRANSISTOR

P-N-P transistor

Marking

CSA1162Y-3E

CSA1162GR(G)-3F

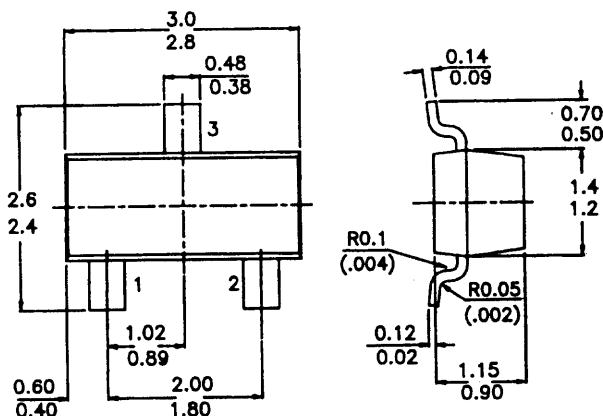
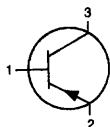
PACKAGE OUTLINE DETAILS
ALL DIMENSIONS IN mm

Pin configuration

1 = BASE

2 = EMITTER

3 = COLLECTOR



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 mATotal power dissipation at $T_{amb} = 25^\circ\text{C}$ P_{tot} max. 150 mW

Junction temperature

 T_j max. 150°C

D.C. current gain

 h_{FE} min. 70 $-I_C = 2 \text{ mA}; -V_{CE} = 6 \text{ V}$

max. 400

RATINGS (at $T_A = 25^\circ\text{C}$ 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 $T_{amb} = 25^{\circ}\text{C}$	P_{tot}	max.	150 mW
Storage temperature	T_{stg}	-50 to +150	$^{\circ}\text{C}$
Junction temperature	T_j	max.	150 $^{\circ}\text{C}$

CHARACTERISTICS (at $T_A = 25^{\circ}\text{C}$ unless otherwise specified)

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