



T-29-21

SILICON SMALL-SIGNAL TRANSISTORS

PNP small-signal transistors, each in a plastic TO-92 envelope.

They are intended for use in audio amplifier driver stages and other general purpose applications.

NPN complementary types are 2PC1815 and 2PC1815L.

QUICK REFERENCE DATA

Collector-base voltage (open emitter)	$-V_{CB0}$	max.	50 V
Collector-emitter voltage (open base)	$-V_{CEO}$	max.	50 V
Collector current (DC)	$-I_C$	max.	150 mA
Total power dissipation at $T_{amb} \leq 25^\circ C$	P_{tot}	max.	500 mW
Collector-emitter saturation voltage $-I_C = 100 \text{ mA}; -I_B = 10 \text{ mA}$	$-V_{CEsat}$	max.	0.3 V
DC current gain $-I_C = 2 \text{ mA}; -V_{CE} = 6 \text{ V}$	h_{FE}	min. max.	120 700

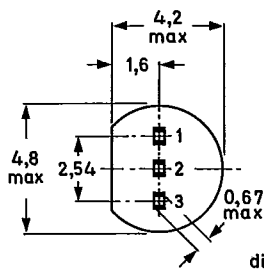
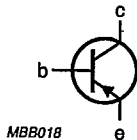
MECHANICAL DATA

Dimensions in mm

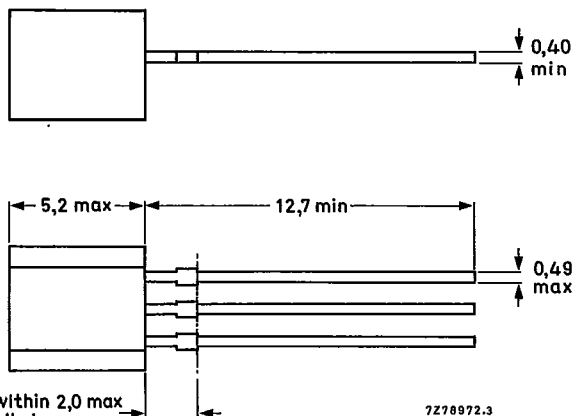
Fig.1 TO-92

Pinning

- 1 = base
- 2 = collector
- 3 = emitter



diameter within 2,0 max
is uncontrolled



2PA1015
2PA1015L

PHILIPS INTERNATIONAL

56E D ■ 7110826 0042699 021 ■ PHIN

RATINGS

T-29-21

Limiting values in accordance with the Absolute Maximum System (IEC 134)

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.	5.0 V
Collector current (DC)	$-I_C$	max.	150 mA
Base current (DC)	$-I_B$	max.	50 mA
Total power dissipation at $T_{amb} \leq 25^\circ C$	P_{tot}	max.	500 mW
Junction temperature	T_j	max.	150 $^\circ C$
Storage temperature range	T_{stg}		-65 to + 150 $^\circ C$

THERMAL RESISTANCE

From junction to ambient in free air	$R_{th\ j-a}$	=	250 K/W
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CHARACTERISTICS

$T_j = 25^\circ C$ unless otherwise specified

Collector cut-off current $-I_E = 0; -V_{CB} = 50\ V$	$-I_{CBO}$	max.	100 nA
Emitter cut-off current $-I_C = 0; -V_{EB} = 5\ V$	$-I_{EBO}$	max.	100 nA
DC current gain $-I_C = 150\ mA; -V_{CE} = 6\ V$	h_{FE}	min.	25
$-I_C = 2\ mA; -V_{CE} = 6\ V^*$	h_{FE}	min.	120
		max.	700
Collector-emitter saturation voltage $-I_C = 100\ mA; -I_B = 10\ mA$	$-V_{CEsat}$	max.	0.3 V
Base-emitter saturation voltage $-I_C = 100\ mA; -I_B = 10\ mA$	$-V_{BEsat}$	max.	1.1 V
Transition frequency $-I_C = 1\ mA; -V_{CE} = 10\ V$	f_T	min.	80 MHz
Collector-output capacitance $-I_E = 0; -V_{CB} = 10\ V; f = 1\ MHz$	C_{ob}	typ.	4 pF
		max.	7 pF
Noise figure $-I_C = 100\ \mu A; -V_{CE} = 6\ V;$ $R_s = 10\ k\Omega; f = 1\ kHz$		max.	10 dB
	2PA1015 F	max.	6 dB
	2PA1015L F		

* Classification of h_{FE}

Group	Y	GR	BL
Range	120 - 240	200 - 400	350 - 700