SILICON N-P-N HIGH-VOLTAGE TRANSISTORS

N-P-N high-voltage small-signal transistors in a TO-92 envelope and intended for use in telephony and professional communication equipment.

Complementary type is PN5415/5416.

QUICK REFERENCE DATA

			PN3439	PN3440
Collector-base voltage (open emitter)	V_{CBO}	max.	400	300 V
Collector-emitter voltage (open base)	V_{CEO}	max.	350	250 V
Collector current (d.c.)	I_C	max.	1,0	1,0 A
Total power dissipation up to T_{amb} = 25 °C	P_{tot}	max.	625	625 mW
Junction temperature	T_j	max.	150	150 °C
Collector-emitter saturation voltage I_C = 50 mA; I_B = 4 mA	V_{CEsat}	<	0,5	0,5 V
D.C. current gain I_C = 2 mA; V_{CE} = 10 V	h_{FE}	>	30	
I_C = 20 mA; V_{CE} = 10 V		>		40

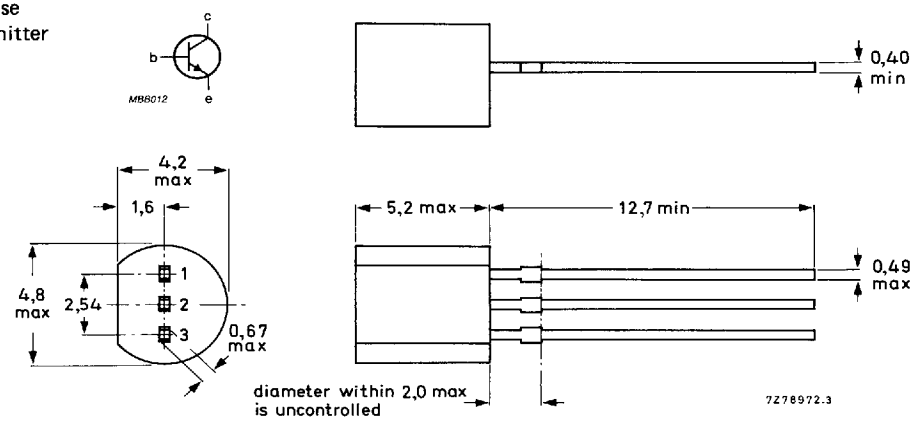
MECHANICAL DATA

Dimensions in mm

Fig. 1 TO-92.

Pinning

1 = collector
2 = base
3 = emitter



Capability approved to CECC NECC-C-002

RATINGS

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

			PN3439	PN3440	
Collector-base voltage (open emitter)	V_{CBO}	max.	400	300	V
Collector-emitter voltage (open base)	V_{CEO}	max.	350	250	V
Emitter-base voltage (open collector)	V_{EBO}	max.	5,0		V
Collector current (d.c.)	I_C	max.	1,0		A
Base current	I_B	max.	0,5		A
Total power dissipation up to T_{amb} = 25 °C	P_{tot}	max.	625		mW
Junction temperature	T_j	max.	150		°C
Storage temperature range	T_{stg}		−65 to 150		°C

THERMAL RESISTANCE

From junction to ambient in free air	$R_{th\ j\text{-}a}$	=	200	K/W

CHARACTERISTICS

T_j = 25 °C unless otherwise specified

			PN3439	PN3440	
Collector cut-off currents					
I_E = 0; V_{CB} = 360 V	I_{CBO}	<	0,1		μA
I_E = 0; V_{CB} = 250 V		<		0,1	μA
I_B = 0; V_{CE} = 300 V	I_{CEO}	<	1,0		μA
I_B = 0; V_{CE} = 200 V		<		1,0	μA
Emitter cut-off current					
I_C = 0; V_{EB} = 5 V	I_{EBO}	<	10	10	μA
Collector-emitter sustaining voltage					
I_B = 0; I_C = 50 mA	V_{CEOsus}	>	350	250	V
Saturation voltages					
I_C = 50 mA; I_B = 4 mA	V_{CEsat}	<	0,5	0,5	V
	V_{BEsat}	<	1,3	1,3	V
D.C. current gain					
I_C = 2 mA; V_{CE} = 10 V	h_{FE}	>	30		
I_C = 20 mA; V_{CE} = 10 V		>		40	
Transition frequency at f = 5 MHz					
I_C = 10 mA; V_{CE} = 10 V; T_{amb} = 25 °C	f_T	>	70		MHz
Small-signal current gain at f = 1 kHz					
I_C = 5 mA; V_{CE} = 10 V; T_{amb} = 25 °C	h_{fe}	>	25		
Real part (Re) of input impedance (h_{ie})					
V_{CE} = 10 V; I_C = 5 mA; f = 1 MHz; T_{amb} = 25 °C	$Re(h_{ie})$	<	300		Ω
Input capacitance at f = 1 MHz					
I_C = 0; V_{EB} = 5 V; T_{amb} = 25 °C	C_e	<	20		pF
Output capacitance at f = 1 MHz					
I_E = 0; V_{CB} = 10 V; T_{amb} = 25 °C	C_c	<	2,0		pF