

2N3924
2N3926
2N3927

SILICON PLANAR EPITAXIAL OVERLAY TRANSISTORS

The 2N3924 is an n-p-n overlay transistor in a TO-39 metal envelope with the collector connected to the case. The 2N3926 and the 2N3927 are n-p-n overlay transistors in TO-60 metal envelopes with the emitter connected to the case. The transistors are intended for v.h.f. transmitting applications.

QUICK REFERENCE DATA

			2N3924	2N3926	2N3927	
Collector-emitter voltage -V _{BE} = 1,5 V	V _{CEX}	max.	36	36	36	V
Collector-emitter voltage (open base)	V _{CEO}	max.	18	18	18	V
Collector current (peak value)	I _{CM}	max.	1,5	3,0	4,5	A
Total power dissipation up to T _{mb} = 25 °C	P _{tot}	max.	7	11,6	23	W
Junction temperature	T _j	max.	200	200	200	°C
Transition frequency I _C = 100 mA; V _{CE} = 13,5 V	f _T	>	250	250	—	MHz
I _C = 200 mA; V _{CE} = 13,5 V	f _T	>	—	—	200	MHz

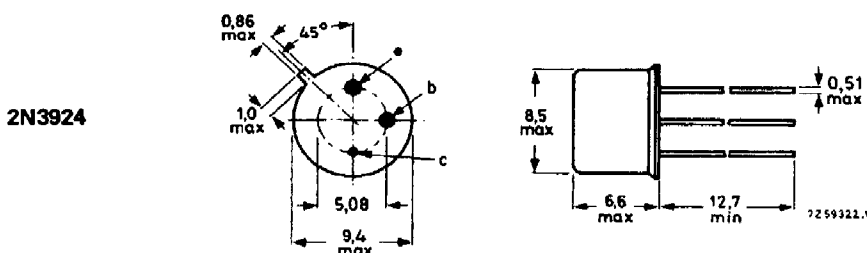
R.F. performance at V_{CE} = 13,5 V; f = 175 MHz

type number	P _O (W)	P _I (W)	η (%)
2N3924	4	< 1	> 70
2N3926	7	< 2	> 70
2N3927	12	< 4	> 80

MECHANICAL DATA

Dimensions in mm

Fig. 1a TO-39/1; collector connected to case.



Maximum lead diameter is guaranteed only for 12,7 mm.

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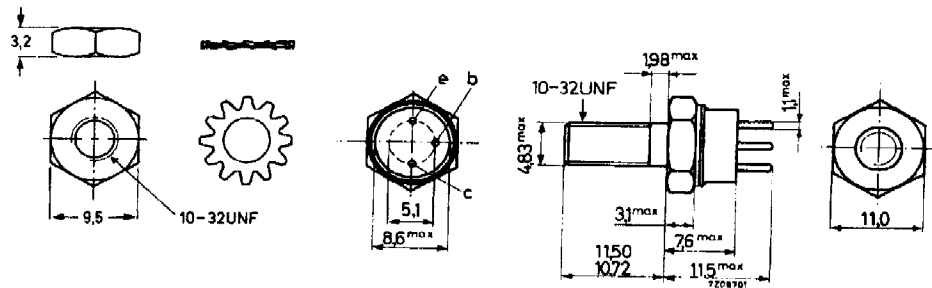
MECHANICAL DATA (continued)

Dimensions in mm

Fig. 1b TO-60 (2N3926 and 2N3927).

Emitter connected to case.

The top pins should not be bent.



Torque on nut: min. 0,8 Nm (8 kg cm)

max. 1,7 Nm (17 kg cm)

Diameter of clearance hole in heatsink: 4,8 mm to 5,2 mm.

PRODUCT SAFETY This device incorporates beryllium oxide, the dust of which is toxic. The device is entirely safe provided that the BeO disc is not damaged.

RATINGS

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

Collector-base voltage (open emitter)	V_{CBO}	max.	36	V	
Collector-emitter voltage	V_{CEX}	max.	36	V	
$I_C \leq 400$ mA; $-V_{BE} = 1,5$ V (open base); $I_C \leq 400$ mA	V_{CEO}	max.	18	V	
Emitter-base voltage (open collector)	V_{EBO}	max.	4	V	
Collector current			2N3924	2N3926	2N3927
d.c.	I_C	max.	0,5	1,0	1,5 A
peak value	I_{CM}	max.	1,5	3,0	4,5 A
Total power dissipation up to $T_{mb} = 25$ °C	P_{tot}	max.	7	11,6	23 W
Storage temperature	T_{stg}		-65 to +200		°C
Junction temperature	T_j	max.	200		°C

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THERMAL RESISTANCE

		2N3924	2N3926	2N3927
From junction to mounting base	$R_{th\ j-mb}$	= 25	15	7.5 K/W
From mounting base to heatsink	$R_{th\ mb-h}$	=	0.6	0.6 K/W

CHARACTERISTICS

$T_j = 25^\circ\text{C}$ unless otherwise specified

Collector cut-off current

		2N3924	2N3926	2N3927
$I_E = 0; V_{CB} = 15\text{ V}$	I_{CBO}	< 100	100	250 μA
$I_E = 0; V_{CB} = 15\text{ V}; T_j = 150^\circ\text{C}$	I_{CBO}	< 5	5	10 mA

Breakdown voltages

$I_E = 0; I_C = 250\ \mu\text{A}$	$V_{(BR)CBO}$	> 36	36	36 V
I_C up to 400 mA				
$-V_{BE} = 1.5\text{ V}; R_B = 33\ \Omega$ ¹⁾	$V_{(BR)CEX}$	> 36	36	36 V
$I_B = 0$ ¹⁾	$V_{(BR)CEO}$	> 18	18	18 V
$I_C = 0; I_E = 250\ \mu\text{A}$	$V_{(BR)EBO}$	> 4	4	4 V

Base-emitter voltage

$I_C = 250\text{ mA}; V_{CE} = 5\text{ V}$	V_{BE}	< 1.5		V
$I_C = 500\text{ mA}; V_{CE} = 5\text{ V}$	V_{BE}	<	1.5	V
$I_C = 1000\text{ mA}; V_{CE} = 5\text{ V}$	V_{BE}	<		1.5 V

Saturation voltage

$I_C = 250\text{ mA}; I_B = 50\text{ mA}$	V_{CEsat}	< 0.75		V
$I_C = 500\text{ mA}; I_B = 100\text{ mA}$	V_{CEsat}	<	0.75	V
$I_C = 1000\text{ mA}; I_B = 200\text{ mA}$	V_{CEsat}	<		1.0 V

This datasheet has been downloaded from:

www.DatasheetCatalog.com

Datasheets for electronic components.