2N4924 SILICON
2N4925

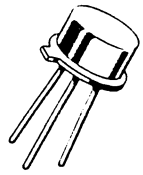
SOLID STATE INC.
46 FARRAND STREET
BLOOMFIELD, NEW JERSEY 07003 www.solidstateinc.com

NPN SILICON ANNULAR TRANSISTORS

. . .designed for high-voltage high-frequency amplifier applications

- High Collector-Emitter Breakdown Voltage
  BV_{CEO} = 100 Vdc (Min) @ I_C = 10 mAdc – 2N4924
  150 Vdc (Min) @ I_C = 10 mAdc – 2N4925

NPN SILICON AMPLIFIER TRANSISTORS



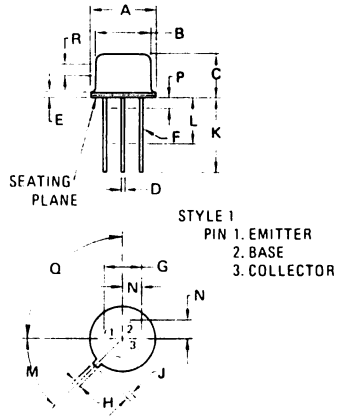
*MAXIMUM RATING

Rating	Symbol	2N4924	2N4925	Unit
Collector-Emitter Voltage	V_{CEO}	100	150	Vdc
Collector-Base Voltage	V_{CB}	100	150	Vdc
Emitter-Base Voltage	V_{EB}	5.0		Vdc
Collector Current – Continuous	I_C	200		mAdc
Total Power Dissipation @ T_A = 25°C	P_D	1.0		Watt
Derate above 25°C		5.71		mW/°C
Total Power Dissipation @ T_C = 25°C	P_D	5.0		Watts
Derate above 25°C		28.6		mW/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to +200		°C

*Indicates JEDEC Registered Data.

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	175	°C/W
Thermal Resistance, Junction to Case	$R_{\theta JC}$	35	°C/W



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	8.89	9.40	0.350	0.370
B	8.00	8.51	0.315	0.335
C	6.10	6.60	0.240	0.260
D	0.406	0.533	0.016	0.021
E	0.229	3.18	0.009	0.125
F	0.406	0.483	0.016	0.019
G	4.83	5.33	0.190	0.210
H	0.711	0.864	0.028	0.034
J	0.737	1.02	0.029	0.040
K	12.70	–	0.500	–
L	6.35	–	0.250	–
M	45° NOM		45° NOM	
P	–	1.27	–	0.050
Q	90° NOM		90° NOM	
R	2.54	–	0.100	–

All JEDEC notes and dimensions apply.

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***ELECTRICAL CHARACTERISTICS** (T_A = 25°C unless otherwise noted.)

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage (1) (I_C = 10 mAdc, I_B = 0)	2N4924	BV_{CEO}	100	–	Vdc
	2N4925		150	–	
Collector-Base Breakdown Voltage (I_C = 10 μAdc, I_E = 0)	2N4924	BV_{CBO}	100	–	Vdc
	2N4925		150	–	
Emitter-Base Breakdown Voltage (I_E = 10 μAdc, I_C = 0)		BV_{EBO}	5.0	–	Vdc
Collector Cutoff Current (V_{CB} = 50 Vdc, I_E = 0)		I_{CBO}	–	0.1	μAdc
(V_{CB} = 75 Vdc, I_E = 0)			–	0.1	
Emitter Cutoff Current (V_{BE} = 3.0 Vdc)		I_{EBO}	–	0.1	μAdc
ON CHARACTERISTICS (1)					
DC Current Gain (I_C = 1.0 mAdc, V_{CE} = 10 Vdc)		h_{FE}	25	–	–
(I_C = 10 mAdc, V_{CE} = 10 Vdc)			35	–	
(I_C = 150 mAdc, V_{CE} = 10 Vdc)			40	200	
Collector-Emitter Saturation Voltage (I_C = 10 mAdc, I_B = 1.0 mAdc)		$V_{CE\ (sat)}$	–	0.25	Vdc
(I_C = 50 mAdc, I_B = 5.0 mAdc)			–	0.4	
Base-Emitter On Voltage (I_C = 50 mAdc, V_{CE} = 10 Vdc)		$V_{BE(on)}$	–	0.95	Vdc
SMALL-SIGNAL CHARACTERISTICS					
Current-Gain–Bandwidth Product (2) (I_C = 20 mAdc, V_{CE} = 20 Vdc, f = 100 MHz)		f_T	100	500	MHz
Collector-Base Capacitance (V_{CB} = 20 Vdc, I_E = 0, f = 140 kHz)		C_{cb}	–	10	pF
Emitter-Base Capacitance (V_{EB} = 1.0 Vdc, I_C = 0, f = 140 kHz)		C_{eb}	–	80	pF

*Indicates JEDEC Registered Data.

(1) Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%.

(2) $f_T = |h_{fe}| \bullet f_{test}$.