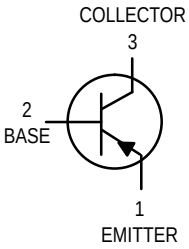
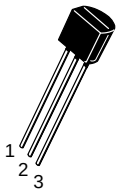
Order this document
by MPS4125/D

Amplifier Transistors
PNP Silicon

MPS4125
MPS4126





CASE 29–04, STYLE 1
TO–92 (TO–226AA)

MAXIMUM RATINGS

Rating	Symbol	MPS4125	MPS4126	Unit
Collector–Emitter Voltage	V_{CE}	–30	–25	Vdc
Collector–Base Voltage	V_{CB}	–10	–25	Vdc
Emitter–Base Voltage	V_{EB}	–4.0		Vdc
Collector Current — Continuous	I_C	–200		mAdc
Total Power Dissipation @ T_A = 25°C Derate above 25°C	P_D	625 5.0		mW mW/°C
Total Power Dissipation @ T_C = 25°C Derate above 25°C	P_D	1.5 12		W mW/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	–55 to +150		°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	200	°C/W
Thermal Resistance, Junction to Case	$R_{\theta JC}$	83.3	°C/W

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

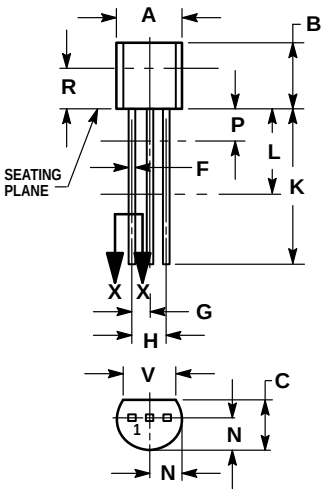
Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector–Emitter Breakdown Voltage (I_C = –1.0 mA, I_B = 0)	MPS4125 MPS4126	$V_{(BR)CEO}$	–30 –25	— —	Vdc
Collector–Base Breakdown Voltage (I_C = –10 μA, I_E = 0)	MPS4125 MPS4126	$V_{(BR)CBO}$	–30 –25	— —	Vdc
Emitter–Base Breakdown Voltage (I_C = 0, I_E = –10 μA)		$V_{(BR)EBO}$	–4.0	—	Vdc
Collector Cutoff Current (V_{CB} = –20 V, I_E = 0)		I_{CBO}	—	–50	nAdc
Emitter Cutoff Current (V_{EB} = –3.0 V, I_C = 0)		I_{EBO}	—	–50	nAdc

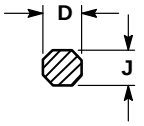
REV 1

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

Characteristic		Symbol	Min	Max	Unit
ON CHARACTERISTICS					
DC Current Gain		h_{FE}			—
(I_C = –2.0 mA, V_{CE} = –1.0 V)	MPS4125		50	150	
	MPS4126		120	360	
(I_C = –50 mA, V_{CE} = –1.0 V)	MPS4125		25	—	
	MPS4126		60	—	
Collector–Emitter Saturation Voltage		$V_{CE(sat)}$	—	–0.4	Vdc
(I_C = –50 mA, I_B = –5.0 mA)					
Base–Emitter Saturation Voltage		$V_{BE(sat)}$	—	–0.95	Vdc
(I_C = –50 mA, I_B = –5.0 mA)					
SMALL–SIGNAL CHARACTERISTICS					
Current–Gain — Bandwidth Product	MPS4125	f_T	150	—	MHz
(I_C = –10 mA, V_{CE} = –20 V, f = 100 MHz)	MPS4126		170	—	
Output Capacitance		C_{ob}	—	4.5	pF
(V_{CB} = –5.0 V, I_E = 0, f = 1.0 MHz)					
Input Capacitance	MPS4125	C_{ib}	—	12	pF
(V_{EB} = –0.5 V, I_C = 0, f = 1.0 MHz)	MPS4126		—	11.5	
Small–Signal Current Gain	MPS4125	h_{fe}	50	200	—
(I_C = –2.0 mA, V_{CE} = 1.0 V, f = 1.0 kHz)	MPS4126		120	480	
Noise Figure		NF			dB
(I_C = –100 μA, V_{CE} = –5.0 V, R_S = 1.0 kΩ, f = 1.0 kHz)	MPS4125		—	5.0	
	MPS4126		—	4.0	

PACKAGE DIMENSIONS





SECTION X–X

NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. CONTOUR OF PACKAGE BEYOND DIMENSION R IS UNCONTROLLED.
4. DIMENSION F APPLIES BETWEEN P AND L. DIMENSION D AND J APPLY BETWEEN L AND K MINIMUM. LEAD DIMENSION IS UNCONTROLLED IN P AND BEYOND DIMENSION K MINIMUM.

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	0.175	0.205	4.45	5.20
B	0.170	0.210	4.32	5.33
C	0.125	0.165	3.18	4.19
D	0.016	0.022	0.41	0.55
F	0.016	0.019	0.41	0.48
G	0.045	0.055	1.15	1.39
H	0.095	0.105	2.42	2.66
J	0.015	0.020	0.39	0.50
K	0.500	—	12.70	—
L	0.250	—	6.35	—
N	0.080	0.105	2.04	2.66
P	—	0.100	—	2.54
R	0.115	—	2.93	—
V	0.135	—	3.43	—

CASE 029–04
(TO–226AA)
ISSUE AD

STYLE 1:
PIN 1. EMITTER
2. BASE
3. COLLECTOR

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