

MPS6726

One Watt Amplifier Transistors

PNP Silicon

Features

- This is a Pb-Free Device*

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector - Emitter Voltage	V_{CEO}	-30	Vdc
Collector - Base Voltage	V_{CBO}	-40	Vdc
Emitter - Base Voltage	V_{EBO}	-5.0	Vdc
Collector Current - Continuous	I_C	-1.0	Adc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	1.0 8.0	W mW/ $^\circ\text{C}$
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	2.5 20	W mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

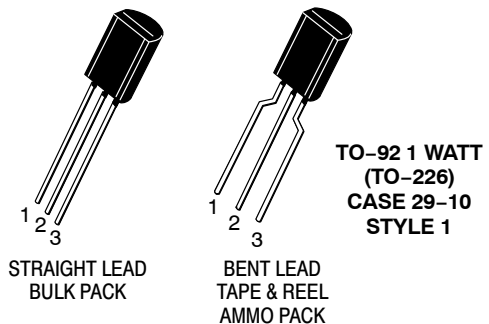
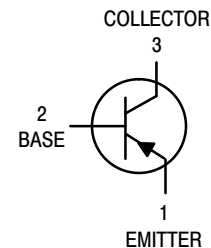
Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	125	$^\circ\text{C}/\text{W}$
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	50	$^\circ\text{C}/\text{W}$

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

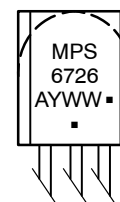


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MARKING DIAGRAM



- A = Assembly Location
 - Y = Year
 - WW = Work Week
 - = Pb-Free Package
- (Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping [†]
MPS6726G	TO-92 (Pb-Free)	5000 Units / Bulk

*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector - Emitter Breakdown Voltage ($I_C = -10\text{ mAdc}$, $I_E = 0$)	$V_{(BR)CEO}$	-30	-	Vdc
Collector - Base Breakdown Voltage ($I_C = -100\ \mu\text{Adc}$, $I_E = 0$)	$V_{(BR)CBO}$	-40	-	Vdc
Emitter - Base Breakdown Voltage ($I_E = -100\ \mu\text{Adc}$, $I_C = 0$)	$V_{(BR)EBO}$	-5.0	-	Vdc
Collector Cutoff Current ($V_{CB} = -40\text{ Vdc}$, $I_E = 0$)	I_{CBO}	-	-0.1	μAdc
Emitter Cutoff Current ($V_{EB} = -5.0\text{ Vdc}$, $I_C = 0$)	I_{EBO}	-	-0.1	μAdc
ON CHARACTERISTICS (Note 1)				
DC Current Gain ($I_C = -100\text{ mAdc}$, $V_{CE} = -1.0\text{ Vdc}$) ($I_C = -1000\text{ mAdc}$, $V_{CE} = -1.0\text{ Vdc}$)	h_{FE}	60 50	- 250	-
Collector - Emitter Saturation Voltage ($I_C = -1000\text{ mAdc}$, $I_B = -100\text{ mAdc}$)	$V_{CE(sat)}$	-	-0.5	Vdc
Base - Emitter On Voltage ($I_C = -1000\text{ mAdc}$, $V_{CE} = -1.0\text{ Vdc}$)	$V_{BE(on)}$	-	-1.2	Vdc
SMALL-SIGNAL CHARACTERISTICS				
Collector - Base Capacitance ($V_{CB} = -10\text{ Vdc}$, $I_E = 0$, $f = 1.0\text{ MHz}$)	C_{cb}	-	30	pF
Small-Signal Current Gain ($I_C = -50\text{ mAdc}$, $V_{CE} = -10\text{ Vdc}$, $f = 20\text{ MHz}$)	h_{fe}	2.5	25	-

1. Pulse Test: Pulse Width $\leq 300\ \mu\text{s}$; Duty Cycle $\leq 2.0\%$.

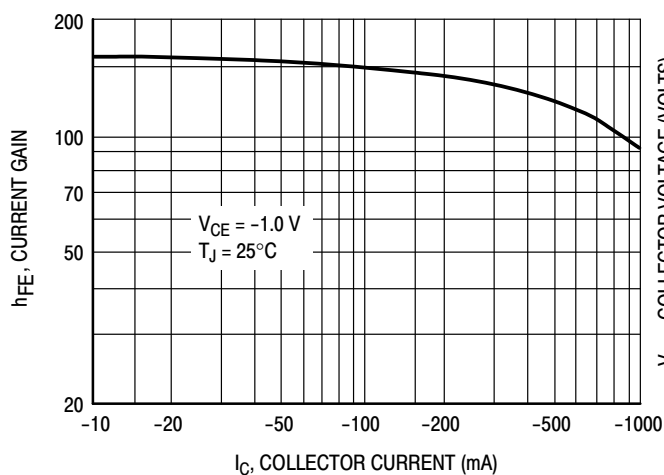


Figure 1. DC Current Gain

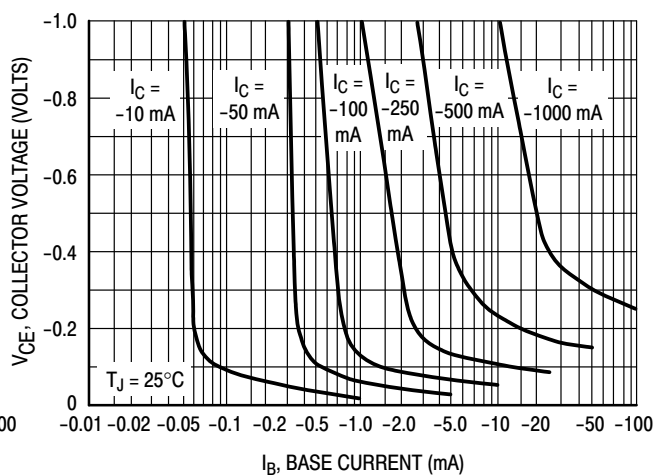


Figure 2. Collector Saturation Region

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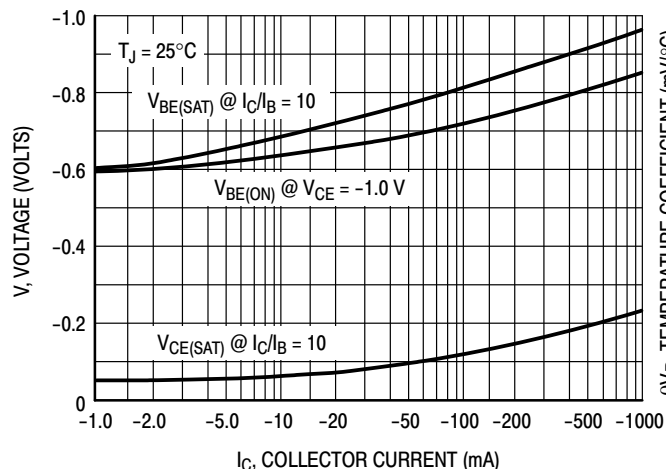


Figure 3. "ON" Voltages

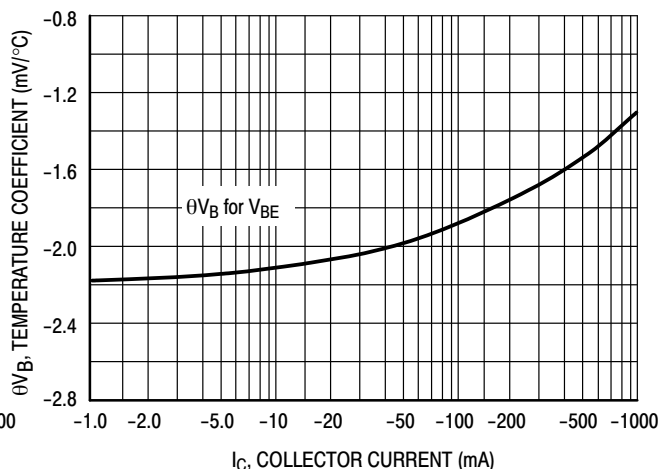


Figure 4. Temperature Coefficient

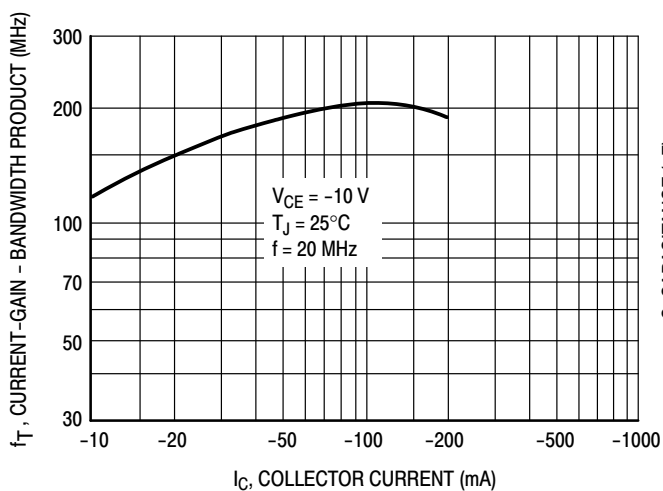


Figure 5. Current Gain — Bandwidth Product

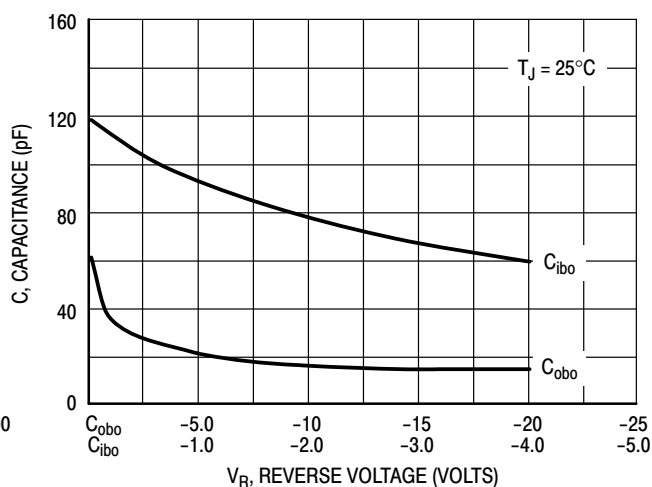


Figure 6. Capacitance

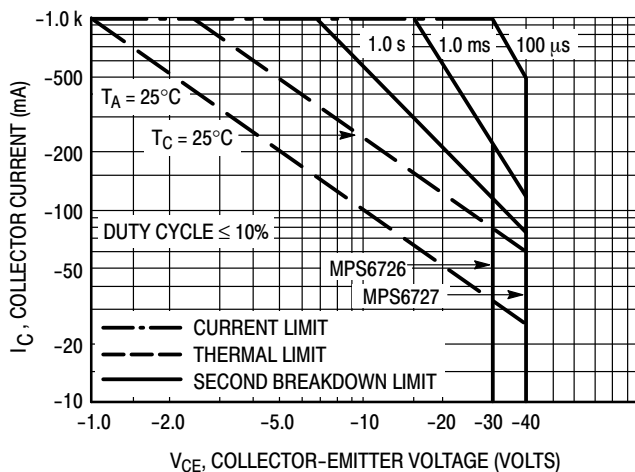
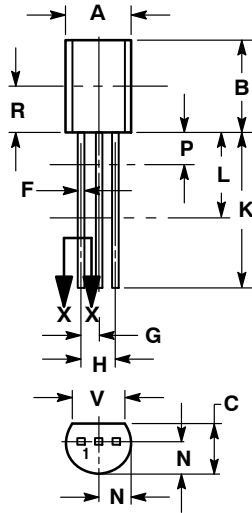


Figure 7. Active Region — Safe Operating Area

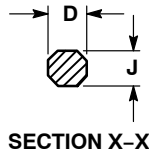
MPS6726

PACKAGE DIMENSIONS

TO-92 (TO-226) 1 WATT
CASE 29-10
ISSUE O



STRAIGHT LEAD
BULK PACK



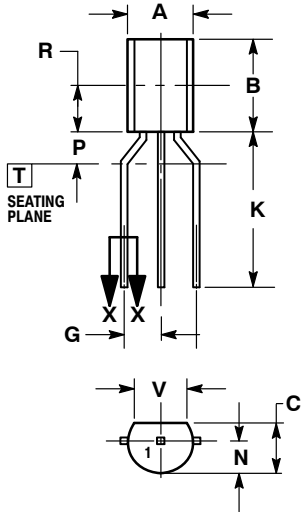
SECTION X-X

NOTES:

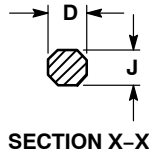
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2. CONTROLLING DIMENSION: INCHES.
3. CONTOUR OF PACKAGE BEYOND DIMENSION R IS UNCONTROLLED.
4. DIMENSION F APPLIES BETWEEN DIMENSIONS P AND L. DIMENSIONS D AND J APPLY BETWEEN DIMENSIONS L AND K MINIMUM. THE LEAD DIMENSIONS ARE UNCONTROLLED IN DIMENSION P AND BEYOND DIMENSION K MINIMUM.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.175	0.205	4.44	5.21
B	0.290	0.310	7.37	7.87
C	0.125	0.165	3.18	4.19
D	0.018	0.021	0.46	0.53
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	0.018	0.024	0.46	0.61
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	0.135	---	3.43	---
V	0.135	---	3.43	---

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



BENT LEAD
TAPE & REEL
AMMO PACK



SECTION X-X

NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
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DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.175	0.205	4.44	5.21
B	0.290	0.310	7.37	7.87
C	0.125	0.165	3.18	4.19
D	0.018	0.021	0.46	0.53
G	0.094	0.102	2.40	2.80
J	0.018	0.024	0.46	0.61
K	0.500	---	12.70	---
N	0.080	0.105	2.04	2.66
P	---	0.100	---	2.54
R	0.135	---	3.43	---
V	0.135	---	3.43	---

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