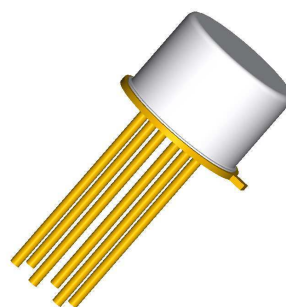


GENERAL PURPOSE DUAL SILICON NPN TRANSISTOR

2C746

- Dual Silicon Planar Transistor
- Hermetic TO77 (MO-002AF) Metal Package.
- Ideally suited for General Purpose, AC and Transducer Amplifier and DC Amplifier Applications



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise stated)

V_{CBO}	Collector – Base Voltage	50V
V_{CEO}	Collector – Emitter Voltage	25V
V_{EBO}	Emitter – Base Voltage	5.0V
I_C	Continuous Collector Current	50mA
P_D	Total Power Dissipation at $T_A = 25^\circ\text{C}$	One Side 500mW Both Sides 600mW
	Derate Above 25°C	2.9mW/ $^\circ\text{C}$ 3.4mW/ $^\circ\text{C}$
P_D	Total Power Dissipation at $T_C = 25^\circ\text{C}$	1.2W 1.8W
	Derate Above 25°C	6.9mW/ $^\circ\text{C}$ 10.3mW/ $^\circ\text{C}$
T_J	Junction Temperature Range	-55 to $+200^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55 to $+200^\circ\text{C}$

THERMAL PROPERTIES

Symbols	Parameters	One Side Max.	Both Sides Max.	Units
$R_{\theta JA}$	Thermal Resistance, Junction To Ambient	350	292	$^\circ\text{C/W}$
$R_{\theta JC}$	Thermal Resistance, Junction To Case	146	97	$^\circ\text{C/W}$

Semelab Limited reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.

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GENERAL PURPOSE DUAL SILICON NPN TRANSISTOR 2C746

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

Symbols	Parameters	Test Conditions	Min.	Typ.	Max.	Units
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = 100\mu\text{A}$ $I_E = 0$	50			V
$V_{(BR)CEO}^{(1)}$	Collector-Emitter Breakdown Voltage	$I_C = 30\text{mA}$ $I_B = 0$	25			
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = 100\mu\text{A}$ $I_C = 0$	5			
I_{CBO}	Collector Cut-Off Current	$V_{CB} = 50\text{V}$ $I_E = 0$			50	nA
		$T_A = 100^\circ\text{C}$		1.2		μA
$V_{CE(sat)}^{(1)}$	Collector-Emitter Saturation Voltage	$I_C = 50\text{mA}$ $I_B = 5\text{mA}$			0.65	V
$V_{BE(sat)}^{(1)}$	Base-Emitter Saturation Voltage	$I_C = 50\text{mA}$ $I_B = 5\text{mA}$			0.95	
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = 50\text{mA}$ $V_{CE} = 5\text{V}$		0.65		
$h_{FE}^{(1)}$	Forward-current transfer ratio	$I_C = 100\mu\text{A}$ $V_{CE} = 5\text{V}$	20	85		
		$I_C = 1.0\text{mA}$ $V_{CE} = 5\text{V}$		100		
		$I_C = 10\text{mA}$ $V_{CE} = 5\text{V}$	35	120		

DYNAMIC CHARACTERISTICS

$ h_{fe} $	Small signal forward-current transfer ratio	$I_C = 50\text{mA}$ $V_{CE} = 10\text{V}$ $f = 20\text{MHz}$	5			
C_{obo}	Output Capacitance	$V_{CB} = 10\text{V}$ $I_E = 0$ $f = 1.0\text{MHz}$			30	pF

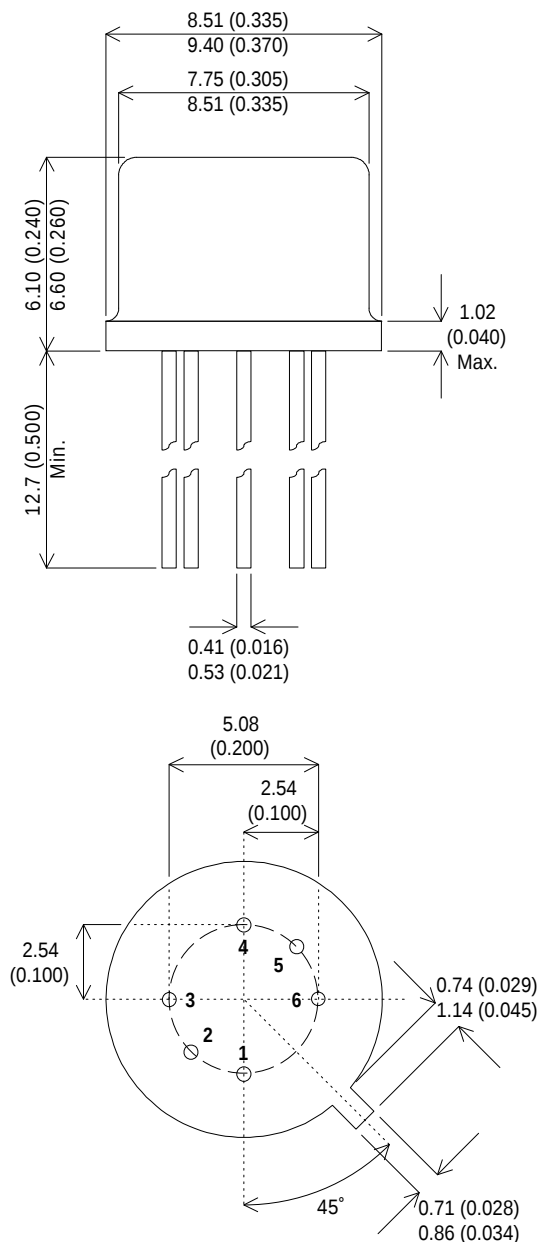
Notes

(1) Pulse Width $\leq 300\mu\text{s}$, $\delta \leq 2\%$

GENERAL PURPOSE DUAL SILICON NPN TRANSISTOR 2C746

MECHANICAL DATA

Dimensions in mm (inches)



TO77 (MO-002AF) Underside View

Pin 1 Collector 1	Pin 2 Base 1	Pin 3 Emitter 1
Pin 4 Emitter 2	Pin 5 Base 2	Pin 6 Collector 2