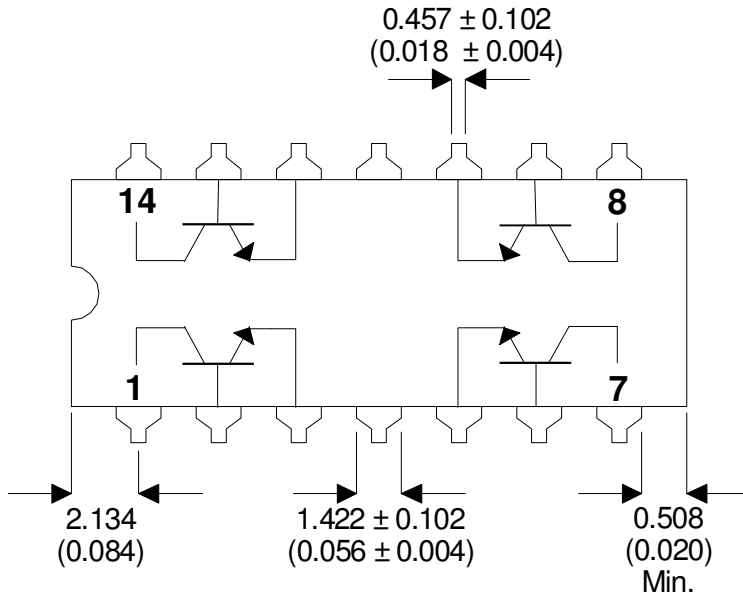


MECHANICAL DATA

Dimensions in mm (inches)



Quad Dual-In-Line NPN Silicon Transistors

FEATURES

- $V_{(BR)CEO} = 40V$ (Min)
- Hermetic Package
- Screening Options Available

APPLICATIONS

- General Purpose Switching
- DC to VHF Amplifiers

ABSOLUTE MAXIMUM RATINGS ($T_c = 25^\circ C$ unless otherwise stated)

V_{CEO}	Collector - Emitter Voltage	40V	
V_{CBO}	Collector - Base Voltage	60V	
V_{EBO}	Emitter - Base Voltage	5V	
I_C	Collector Current - Continuous	500mA	
		Each Transistor	Total Device
P_D	Power Dissipation at $T_A = 25^\circ C$	0.65W	1.9W
	Derate Above $25^\circ C$	3.72mW/ $^\circ C$	10.88mW/ $^\circ C$
T_J	Junction Temperature	200 $^\circ C$	
T_{stg}	Storage Temperature	-65 to +200 $^\circ C$	

Semelab Plc 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.

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{(BR)CEO}^*$ Collector-Emitter Breakdown Voltage	$I_C = 10\text{mA}$ $I_B = 0$	40			V
$V_{(BR)CBO}$ Collector-Base Breakdown Voltage	$I_C = 10\mu\text{A}$ $I_E = 0$	60			
$V_{(BR)EBO}$ Emitter-Base Breakdown Voltage	$I_E = 10\mu\text{A}$ $I_C = 0$	5			
I_{CBO} Collector-Base Cut-Off Current	$I_E = 0$ $V_{CB} = 50\text{V}$			50	nA
I_{EBO} Emitter-Base Cut-Off Current	$I_C = 0$ $V_{EB} = 3\text{V}$			50	
h_{FE}^* Forward-current transfer ratio	$I_C = 10\text{mA}$ $V_{CE} = 10\text{V}$	75			
	$I_C = 150\text{mA}$ $V_{CE} = 10\text{V}$	100			
	$I_C = 300\text{mA}$ $V_{CE} = 10\text{V}$	30			
$V_{CE(sat)}^*$ Collector-Emitter Saturation Voltage	$I_C = 150\text{mA}$ $I_B = 15\text{mA}$			0.4	V
	$I_C = 300\text{mA}$ $I_B = 30\text{mA}$			1.6	
$V_{BE(sat)}^*$ Base-Emitter Saturated Voltage	$I_C = 150\text{mA}$ $I_B = 15\text{mA}$			1.3	
	$I_C = 300\text{mA}$ $I_B = 30\text{mA}$			2.5	

DYNAMIC CHARACTERISTICS

F_T Transition Frequency	$I_C = 20\text{mA}$ $V_{CE} = 20\text{V}$ $f = 100\text{MHz}$	200			MHz
C_{obo} Output Capacitance	$I_E = 0$ $V_{CB} = 10\text{V}$ $f = 1.0\text{MHz}$			8	pF
C_{ibo} Input Capacitance	$I_C = 0$ $V_{EB} = 0.5\text{V}$ $f = 1.0\text{MHz}$			30	
t_{on} Turn-On Time	$V_{CC} = 30\text{V}$ $V_{BE(off)} = 0.5\text{V}$ $I_C = 150\text{mA}$ $I_{B1} = 15\text{mA}$		25		nS
t_{off} Turn-Off Time	$V_{CC} = 30\text{V}$ $I_C = 150\text{mA}$ $I_{B1} = I_{B2} = 15\text{mA}$		250		

* Pulse test $t_p = 300\mu\text{s}$, $\delta < 2\%$

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