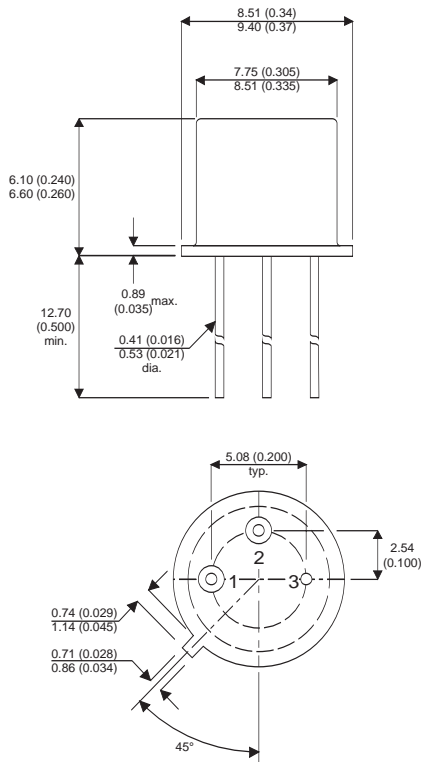


**MECHANICAL DATA**

Dimensions in mm (inches)



**TO-39 (TO-205AD)**

Pin 1 – Emitter      Pin 2 – Base      Pin 3 – Collector

**PNP SILICON TRANSISTORS**

**DESCRIPTION**

The 2N5680X is a silicon epitaxial planar PNP transistors in jedec TO-39 metal case intended for use as drivers for high power transistors in general purpose, amplifier and switching circuit

**ABSOLUTE MAXIMUM RATINGS**

$T_{CASE} = 25^{\circ}C$  unless otherwise stated

$V_{CBO}$	Collector – Base Voltage	-120V
$V_{CEO}$	Collector – Emitter Voltage ( $I_B = 0$ )	-120V
$V_{EBO}$	Emitter – Base Voltage ( $I_C = 0$ )	-4V
$I_C$	Continuous Collector Current	-1A
$I_B$	Base Current	-0.5A
$P_{tot}$	Total Dissipation at $T_{case} \leq 25^{\circ}C$	10W
	$T_{amb} \leq 25^{\circ}C$	1W
$T_{stg}$	Operating and Storage Temperature Range	-65 to +200°C
$T_j$	Junction temperature	200°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.

**THERMAL DATA**

$R_{thj-case}$	Thermal Resistance Junction-case	Max	17.5	°C/W
$R_{thj-amb}$	Thermal Resistance Junction-ambient	Max	175	°C/W

**ELECTRICAL CHARACTERISTICS** ( $T_{case} = 25^{\circ}C$  unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CBO}$	Collector Cut Off Current $I_E = 0$ $V_{CB} = -120V$			-1	$\mu A$
$I_{CEV}$	Collector Cut Off Current $V_{BE} = 1.5$ $V_{CE} = -120V$ $T_C = 150^{\circ}C$			-1	
$I_{CEO}$	Collector Cut Off Current $I_B = 0$ $V_{CE} = -80V$			-10	$\mu A$
$I_{EBO}$	Emitter Cut Off Current $I_C = 0$ $V_{EB} = -4V$			-1	
$V_{CEO(sus)*}$	Collector Emitter Sustaining Voltage $I_B = 0$ $I_C = -10mA$	-120			V
$V_{CE(sat)*}$	Collector Emitter Saturation Voltage $I_C = -250mA$ $I_B = -25mA$			-0.6	
	$I_C = -500mA$ $I_B = -50mA$			-1	
	$I_C = -1A$ $I_B = -200mA$			-2	
$V_{BE*}$	Base Emitter Voltage $I_C = -250mA$ $V_{CE} = -2V$			-1	
$h_{FE*}$	DC Current Gain $I_C = -250mA$ $V_{CE} = -2V$	40		200	
	$I_C = -1A$ $V_{CE} = -2V$	5			
$f_T$	Transistion Frequency $I_C = -100mA$ $V_{CE} = -10V$ $f = 10MHz$	30			MHz
$C_{CBO}$	Collector Base Capacitance $I_E = 0$ $V_{CB} = -20V$ $f = 1MHz$			50	pF
$h_{fe}$	Small Signal Current Gain $I_C = -0.2A$ $V_{CE} = -1.5V$ $f = 1KHz$	40			

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