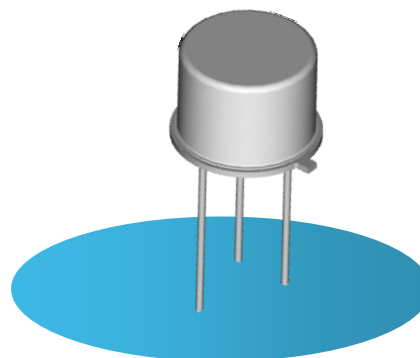


HIGH VOLTAGE NPN TRANSISTORS

2N2243 / 2N2243A

- Hermetic TO39 Package
- High Voltage, Low Saturation Voltage
- Ideally suited for general purpose amplifier and switching applications
- High Reliability Screening Options Available



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

V_{CBO}	Collector – Base Voltage		120V
V_{CEO}	Collector – Emitter Voltage		80V
V_{EBO}	Emitter – Base Voltage		7V
I_C	Collector Current – Continuous		1.0A
P_D	Total Power Dissipation at	$T_C = 25^\circ\text{C}$	2.8W
		Derate Above 25°C	16mW/ $^\circ\text{C}$
P_D	Total Power Dissipation at	$T_A = 25^\circ\text{C}$	0.8W
		Derate Above 25°C	4.57mW/ $^\circ\text{C}$
T_J	Junction Temperature Range		-65 to $+200^\circ\text{C}$
T_{stg}	Storage Temperature Range		-65 to $+200^\circ\text{C}$

THERMAL PROPERTIES

Symbols	Parameters	Max.	Units
$R_{\theta JA}$	Thermal Resistance, Junction To Ambient	218.75	$^\circ\text{C}/\text{W}$
$R_{\theta JC}$	Thermal Resistance, Junction To Case	62.5	$^\circ\text{C}/\text{W}$

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

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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HIGH VOLTAGE NPN TRANSISTORS

2N2243 / 2N2243A

Symbols	Parameters	Test Conditions	Min.	Typ	Max.	Units
$V_{(BR)CEO}^{(1)}$	Collector-Emitter Breakdown Voltage	$I_C = 25mA$ $I_B = 0$	80			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = 100\mu A$ $I_E = 0$	120			
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = 100\mu A$ $I_C = 0$	7			
I_{CBO}	Collector Cut-Off Current	$V_{CB} = 60V$			10	nA
		$T_A = 150^\circ C$			15	μA
I_{EBO}	Emitter Cut-Off Current	$V_{EB} = 5V$ $I_C = 0$			50	nA
$h_{FE}^{(1)}$	Forward-current transfer ratio	$I_C = 0.1mA$ $V_{CE} = 10V$	15			
		$I_C = 10mA$ $V_{CE} = 10V$	30			
		$T_A = -55^\circ C$	20			
		$I_C = 150mA$ $V_{CE} = 10V$	40		120	
		$I_C = 500mA$ $V_{CE} = 10V$	15			
		$I_C = 150mA$ $V_{CE} = 1.0V$	30			
$V_{CE(sat)}^{(1)}$	Collector-Emitter Saturation Voltage	$I_C = 150mA$ $I_B = 15mA$	2N2243		0.35	V
			2N2243A		0.25	
$V_{BE(sat)}^{(1)}$	Base-Emitter Saturation Voltage	$I_C = 150mA$ $I_B = 15mA$			1.3	

DYNAMIC CHARACTERISTICS ($T_A = 25^\circ C$ unless otherwise stated)

Symbols	Parameters	Test Conditions	Min.	Typ	Max.	Units
f_T	Transition Frequency	$I_C = 50mA$ $V_{CE} = 10V$ $f = 20MHz$	2.5			MHz
C_{obo}	Output Capacitance	$V_{CB} = 10V$ $I_E = 0$ $f = 1.0MHz$			15	pF

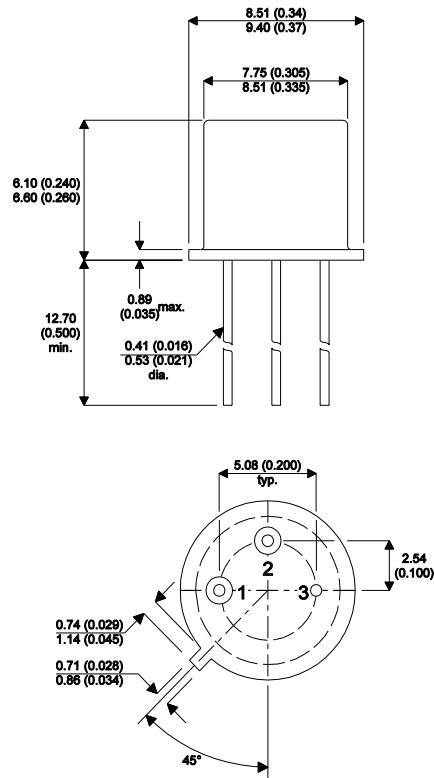
Notes

(1) Pulse Width $\leq 380\mu s$, $\delta \leq 2\%$

HIGH VOLTAGE NPN TRANSISTORS 2N2243 / 2N2243A

MECHANICAL DATA

Dimensions in mm (inches)



TO-39 (TO-205AD) METAL PACKAGE
Underside View

Pin 1 - Emitter

Pin 2 - Base

Pin 3 - Collector

Lead Finish:

- Hot solder dip (63% Sn / 37 %Pb) as standard
- Other options available (as detailed below) but must be specified on purchase order:
 - Au (Gold) plated leads or as standard.
 - Lead free solder (SAC305).