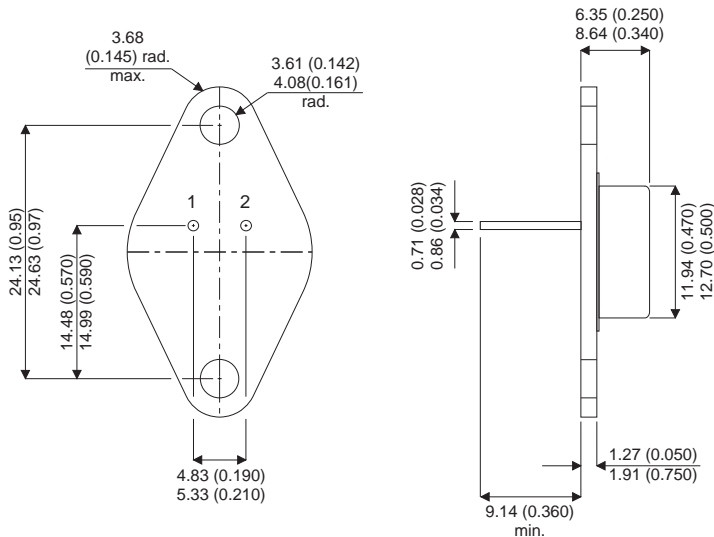


MECHANICAL DATA

Dimensions in mm(inches)



TO-66(TO213AA)

PIN 1 — Base PIN 2 — Emitter Case is Collector

**NPN MULTI - EPITAXIAL
POWER TRANSISTOR**

FEATURES

- HIGH VOLTAGE
- LOW SATURATION VOLTAGES
- HIGH RELIABILITY

APPLICATIONS

- POWER SWITCHING CIRCUITS
- LINEAR APPLICATIONS

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

V_{CBO}	Collector – Base Voltage ($I_E = 0$)	275V
V_{CEX}	Collector – Emitter Voltage ($V_{EB} = 1.5V$)	275V
V_{CEO}	Collector – Emitter Voltage ($I_B = 0$)	250V
V_{CER}	Collector – Emitter Voltage ($R_{BE} < 50\Omega$)	275V
V_{EBO}	Emitter – Base Voltage ($I_C = 0$)	6V
I_C	Collector Current	7A
I_{CM}	Peak Collector Current	10A
I_B	Base Current	4A
P_{tot}	Total Power Dissipation at $T_{case} \leq 25^{\circ}C$	45W
T_{stg}	Storage Temperature	-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.

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{\text{CEO(BR)}}^*$ Collector - Emitter Breakdown Voltage	$I_{\text{C}} = 0.2\text{mA}$	250			V
V_{EBO} Emitter – Base Voltage	$I_{\text{E}} = 1.0\text{mA}$ $I_{\text{C}} = 0$	6			V
I_{CEV} Collector Cut-off Current	$V_{\text{CE}} = 250\text{V}$ $V_{\text{BE}} = -1.5\text{V}$ $T_{\text{CASE}} = 125^{\circ}\text{C}$			0.05	mA
				0.2	mA
I_{EBO} Emitter Cut-off Current	$I_{\text{C}} = 0$ $V_{\text{EB}} = -6\text{V}$			1.0	mA
$V_{\text{CE(sat)}}^*$ Collector – Emitter Saturation Voltage	$I_{\text{C}} = 1.2\text{A}$ $I_{\text{B}} = 0.2\text{A}$		0.15	0.5	V
	$I_{\text{C}} = 5\text{A}$ $I_{\text{B}} = 1.0\text{A}$		0.8	3	
$V_{\text{BE(sat)}}^*$ Base – Emitter Saturation Voltage	$I_{\text{C}} = 1.2\text{A}$ $I_{\text{B}} = 0.2\text{A}$		1.0	1.6	V
	$I_{\text{C}} = 5\text{A}$ $I_{\text{B}} = 1.0\text{A}$		1.5	2	
h_{FE}^* DC Current Gain	$I_{\text{C}} = 1.2\text{A}$ $V_{\text{CE}} = 1.0\text{V}$	12	28	70	—
$I_{\text{S/b}}$ Second Breakdown Collector Current	$V_{\text{CE}} = 50\text{V}$			0.9	A
C_{obo} Output Capacitance	$V_{\text{CB}} = 10\text{V}$ $I_{\text{E}} = 0$			150	pF
t_{r} Rise Time	$V_{\text{C}} = 250\text{V}$ $I_{\text{C}} = 1.2\text{A}$ $I_{\text{B}} = 0.2\text{A}$ $I_{\text{B1}} = I_{\text{B2}}$		0.3	0.75	μs
t_{s} Storage Time			2.8	5	
t_{f} Fall Time			0.3	0.75	
t_{d} Delay Time			0.02		

THERMAL CHARACTERISTICS

$R_{\theta\text{JC}}$	Thermal Resistance Junction to Case		3.9		$^{\circ}\text{C/W}$
-----------------------	-------------------------------------	--	-----	--	----------------------

* Pulse test $t_{\text{p}} = 350\mu\text{s}$, $\delta = 2\%$