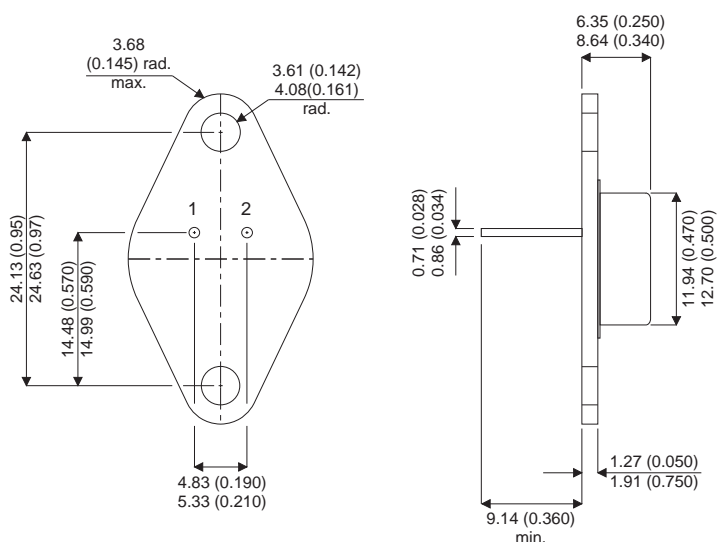


**MECHANICAL DATA**

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

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

**THERMAL CHARACTERISTICS**

$R_{\theta JC}$	Thermal Resistance Junction to Case		3.9		$^{\circ}C/W$
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\* Pulse test  $t_p = 350\mu s$ ,  $\delta = 2\%$