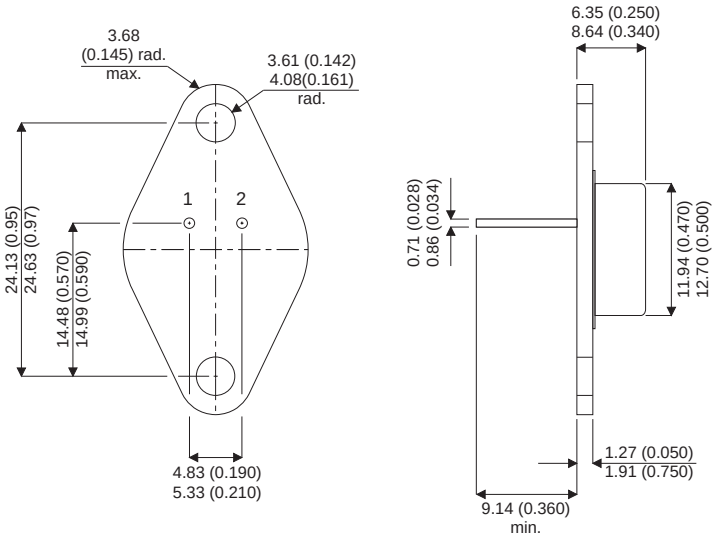
2N3738

MECHANICAL DATA
Dimensions in mm

POWER TRANSISTORS
NPN SILICON



TO66 Package (TO-213AA)

Pin 1 = Base Pin 2 = Emitter Case = Collector

FEATURES

- **Hermetically Packaged.**
- **Low Saturation Voltage**
- **High Gain**

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C unless otherwise stated)

V_{CBO}	Collector – Base Voltage	250V
V_{CEO}	Collector – Emitter Voltage (I_B = 0)	225V
V_{EBO}	Emitter – Base Voltage (I_C = 0)	6V
I_C	Collector Current	1A
$I_{C(PK)}$	Peak Collector Current	2A
I_B	Base Current	0.5A
P_D	Total Device Dissipation at T_{case} = 25°C	20W
	Derate 25°C	0.133W/°C
T_{stg}	Operating and Storage Temperature Range	–65 to 200°C

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SEME LAB

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ELECTRICAL CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)

	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
	ELECTRICAL CHARACTERISTICS					
$V_{CEO(BR)*}$	Collector– Emitter Breakdown Voltage	I_C = 5mA I_B = 0	225			V
I_{CBO}	Collector Base Cut–Off Current	V_{CB} = 250V I_E = 0			0.1	mA
I_{CEO}	Collector Emiiter Cut–Off Current	V_{CE} = 125V I_B = 0			0.25	mA
I_{CEV}	Collector Cut–Off Current	V_{CE} = 250V $V_{BE(OFF)}$ = 1.5V			0.5	mA
		V_{CE} = 125V $V_{BE(OFF)}$ = 1.5V T_C = 100°C			1.0	mA
I_{EBO}	Emitter Base Cut–Off Current	V_{EB} = 6V			0.1	mA
h_{FE*}	DC Current Gain	I_C = 50mA V_{CE} = 10V	30			—
		I_C = 100mA V_{CE} = 10V	40		200	
		I_C = 250mA V_{CE} = 10V	25			
$V_{CE(sat)*}$	Collector – Emitter Saturation Voltage	I_C = 250mA I_B = 25mA			2.5	V
$V_{BE(on)*}$	Base – Emitter on Voltage	I_C = 100mA V_{CE} = 10V			1.0	
	DYNAMIC CHARACTERISTICS					
f_T	Transition Frequency	I_C = 100mA V_{CE} = 10V f = 10MHz	10			MHz
C_{ob}	Output Capacitance	V_{CB} = 100V I_E = 0 f = 100KHz			20	pF
h_{fe}	Small Signal Current Gain	I_C = 100mA V_{CE} = 20V f = 1KHz	35			—

* Pulse Width ≤ 300µs , Duty Cycle < 2%

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