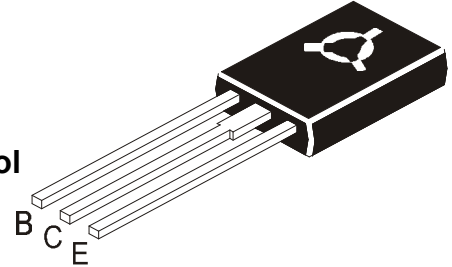


**TO126 PLASTIC PACKAGE  
NON SILICON POWER TRANSISTOR**

**Applications**

Suitable for Lighting, Switching Regulator and Motor Control



**ABSOLUTE MAXIMUM RATINGS**

DESCRIPTION	SYMBOL	VALUE	UNIT
Collector Base Voltage	$V_{CBO}$	600	V
Collector Emitter (sus) Voltage	$V_{CEO}$	400	V
Emitter Base Voltage	$V_{EBO}$	9.0	V
Collector Current Continuous	$I_C$	1.5	A
Peak (1)	$I_{CM}$	3.0	A
Base Current Continuous	$I_B$	0.75	A
Peak (1)	$I_{BM}$	1.5	A
Emitter Current Continuous	$I_E$	2.25	A
Peak (1)	$I_{EM}$	4.5	A
Power Dissipation @ $T_a=25^\circ\text{C}$	$P_D$	1.4	W
Derate Above $25^\circ\text{C}$		11.2	mW/ $^\circ\text{C}$
Power Dissipation @ $T_c=25^\circ\text{C}$	$P_D$	45	W
Derate Above $25^\circ\text{C}$		360	mW/ $^\circ\text{C}$
Operating And Storage Junction Temperature Range	$T_j, T_{stg}$	- 65 to+150	$^\circ\text{C}$

**THERMAL RESISTANCE**

Junction to Case	$R_{th(j-c)}$	2.77	$^\circ\text{C/W}$
Junction to Ambient	$R_{th(j-a)}$	89	$^\circ\text{C/W}$
Maximum Lead Temperature for Soldering Purpose: 1/8" from Case for 5 Seconds	$T_L$	275	$^\circ\text{C}$

(1) Pulse Test: Pulse Width=5ms, Duty Cycle=10%

**ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$  unless specified otherwise)**

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Base Voltage	$V_{CBO}$	$I_C=1\text{mA}, I_E=0$	600			V
Collector Emitter (sus) Voltage	$*V_{CEO(sus)}$	$I_C=10\text{mA}, I_B=0$	400			V
Collector Cut Off Current	$I_{CBO}$	$V_{CB}=600\text{V}, I_E=0$ $V_{CB}=600\text{V}, I_E=0, T_c=100^\circ\text{C}$			1.0 5.0	mA mA
Emitter Cut Off Current	$I_{EBO}$	$V_{EB}=9\text{V}, I_C=0$			1.0	mA

\*Pulse Test: PW=300ms, Duty Cycle=2%

**ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless specified otherwise)**

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
DC Current Gain	*h <sub>FE</sub>	**I <sub>C</sub> =0.5A, V <sub>CE</sub> =5V	11		30	
		I <sub>C</sub> =1A, V <sub>CE</sub> =5V	5		25	
Collector Emitter Saturation Voltage	*V <sub>CE(sat)</sub>	I <sub>C</sub> =0.5A, I <sub>B</sub> =0.1A			0.5	V
		I <sub>C</sub> =1A, I <sub>B</sub> =0.25A			1.0	V
		I <sub>C</sub> =1.5A, I <sub>B</sub> =0.5A			2.5	V
		I <sub>C</sub> =1A, I <sub>B</sub> =0.25A, T <sub>c</sub> =100°C			1.0	V
Base Emitter Saturation Voltage	*V <sub>BE(sat)</sub>	I <sub>C</sub> =0.5A, I <sub>B</sub> =0.1A			1.0	V
		I <sub>C</sub> =1A, I <sub>B</sub> =0.25A			1.2	V
		I <sub>C</sub> =1A, I <sub>B</sub> =0.25A, T <sub>c</sub> =100°C			1.1	V

**DYNAMIC CHARACTERISTICS**

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Current Gain Bandwidth Product	f <sub>T</sub>	I <sub>C</sub> =100mA, V <sub>CE</sub> =10V, f=1MHz	4.0			MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V, f=0.1MHz		21		pF

**SWITCHING TIME**

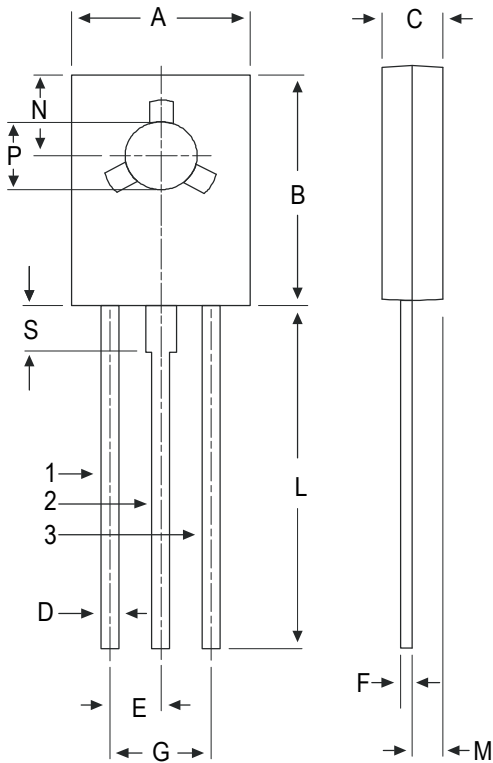
Turn On Time	t <sub>on</sub>	V <sub>CC</sub> =125V, I <sub>C</sub> =1A, I <sub>B1</sub> =0.2A, I <sub>B2</sub> =0.2A			1.1	μS
Storage Time	t <sub>stg</sub>				4.0	μS
Fall Time	t <sub>r</sub>				0.7	μS

**\*\* h<sub>FE</sub> Classification:-**

Note:- Product is pre selected in DC current gain (Groups A to F). RECTRON reserves the right to ship any of the groups according to production availability.	<b>A</b>	<b>B</b>	<b>C</b>	<b>E</b>	<b>F</b>
	11-16	15-19	18-22	21-25	24-30
<b>MARKING</b>	<b>CD</b>	<b>CD</b>	<b>CD</b>	<b>CD</b>	<b>CD</b>
	13003A	13003B	13003C	13003E	13003F
	XY	XY	XY	XY	XY
X = Year of Manufacturer Code					
Y = Month Code					

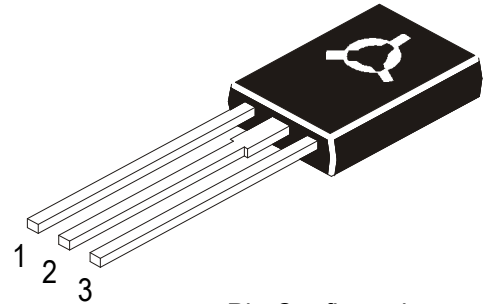
\*Pulse Test:- PW=300ms, Duty Cycle=2%

## TO-126 (SOT-32) Plastic Package



DIM	MIN	MAX
A	7.4	7.8
B	10.5	10.8
C	2.4	2.7
D	0.7	0.9
E	2.25 TYP.	
F	0.49	0.75
G	4.5 TYP.	
L	15.7 TYP.	
M	1.27 TYP.	
N	3.75 TYP.	
P	3.0	3.2
S	2.5 TYP.	

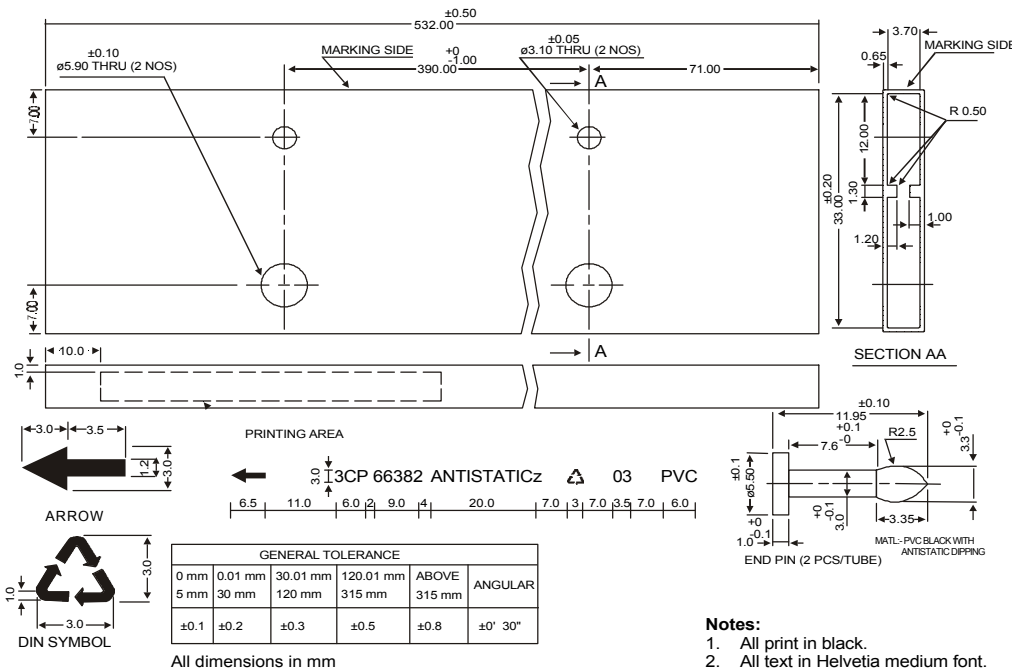
All dimensions in mm.



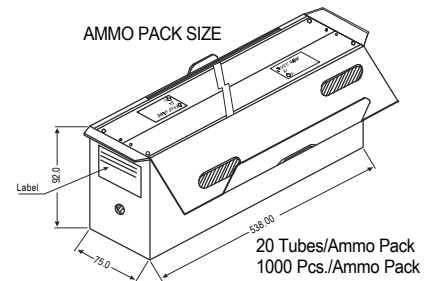
### Pin Configuration

1. Base
2. Collector
3. Emitter

## TO-126 TUBE PACKING



- Notes:**
1. All print in black.
  2. All text in Helvetica medium font.



20 Tubes/Ammo Pack  
1000 Pcs./Ammo Pack

## Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-126 Bulk	500 pcs/polybag	340 gm/500 pcs	3" x 7.5" x 7.5"	2K	17" x 15" x 13.5"	32K	31 kgs
TO-126 Tube	50 pcs/tube	73 gm/50 pcs	3" x 3.7" x 21.5"	1K	19" x 19" x 19"	10K	15 kgs

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