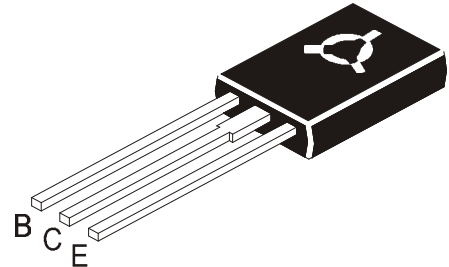


**TO126 PLASTIC PACKAGE
NPN SILICON POWER TRANSISTOR**

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°C		11.2	mW/ $^\circ\text{C}$
Power Dissipation @ $T_c=25^\circ\text{C}$	P_D	40	W
Derate Above 25°C		320	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	$R_{th(j-c)}$	3.12	$^\circ\text{C/W}$
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_a=25°C unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
DC Current Gain	*h _{FE}	**I _C =0.3A, V _{CE} =2V	10		30	
		I _C =0.5A, V _{CE} =2V	8		40	
		I _C =1A, V _{CE} =2V	4		25	
Collector Emitter Saturation Voltage	*V _{CE (sat)}	I _C =0.5A, I _B =0.1A			0.5	V
		I _C =1A, I _B =0.25A			1.0	V
		I _C =1.5A, I _B =0.5A			3.0	V
		I _C =1A, I _B =0.25A, T _c =100°C			1.0	V
Base Emitter Saturation Voltage	*V _{BE (sat)}	I _C =0.5A, I _B =0.1A			1.0	V
		I _C =1A, I _B =0.25A			1.2	V
		I _C =1A, I _B =0.25A, T _c =100°C			1.1	V

DYNAMIC CHARACTERISTICS

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Current Gain Bandwidth Product	f _T	I _C =100mA, V _{CE} =10V, f=1MHz	4.0			MHz
Output Capacitance	C _{ob}	V _{CB} =10V, f=0.1MHz		21		pF

SWITCHING TIME

Delay Time	t _d	V _{CC} =125V, I _C =1A, I _{B1} =I _{B2} =0.2A, t _p =25μs, Duty Cycle=1%			0.1	μs
Rise Time	t _r				1.0	μs
Storage Time	t _s				4.0	μs
Fall Time	t _f				0.7	μs

Voltage Storage Time	t _{sv}	V _{Clamp} =300V, I _C =1A, I _{B1} =0.2A, V _{BE(off)} =5V, T _c =100°C			4.00	μs
Crossover Time	t _C				0.75	μs
Fall Time	t _{fi}			0.15		μs

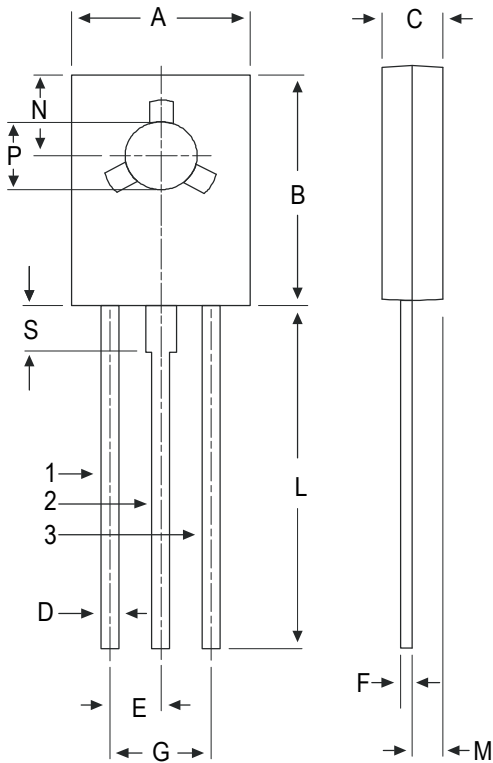
*Pulse Test: PW=300ms, Duty Cycle=2%

** h_{FE} 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.	A	B	C	E	F
	11-16	15-19	18-22	21-25	24-30
MARKING	C	C	C	C	C
	13003A	13003B	13003C	13003E	13003F
	XY	XY	XY	XY	XY
X = Year of Manufacturer Code					
Y = Month Code					

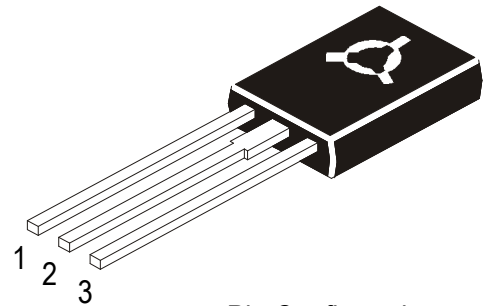
*Pulse Test:- PW=300ms, Duty Cycle=2%

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.	

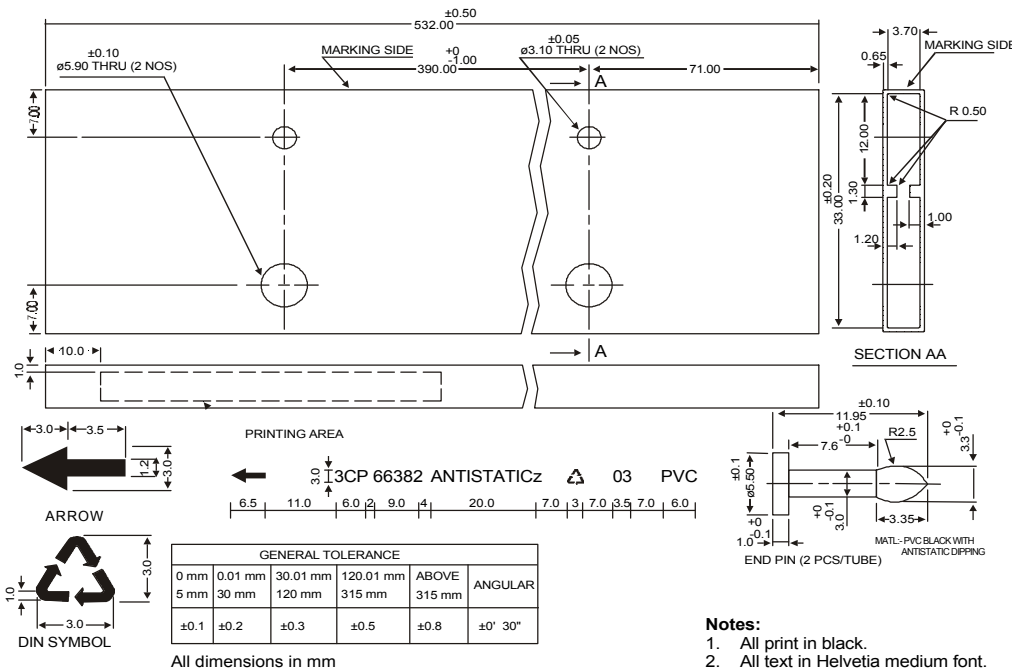
All dimensions in mm.



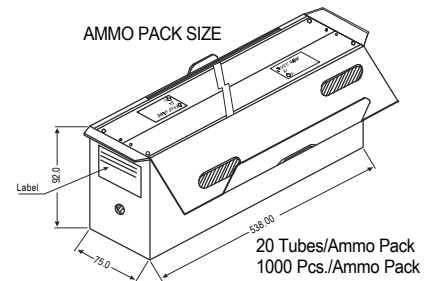
Pin Configuration

1. Base
2. Collector
3. Emitter

TO-126 TUBE PACKING



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



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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