

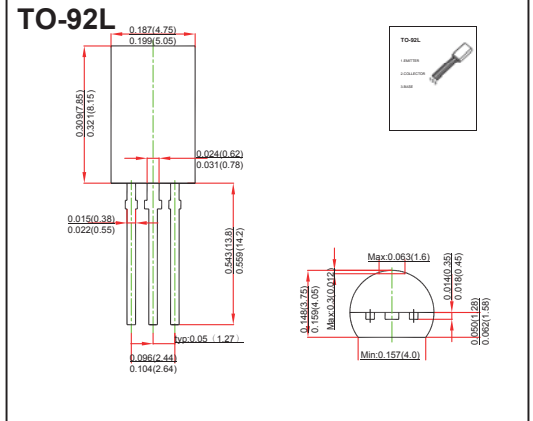
TO-92L Plastic-Encapsulate Transistors

FEATURES

- Power Amplifier Applications
- TRANSISTOR (PNP)

MECHANICAL DATA

- Case style: TO-92L molded plastic
- Mounting position: any



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	-50	V
V _{CEO}	Collector-Emitter Voltage	-50	V
V _{EBO}	Emitter-Base Voltage	-5	V
I _C	Collector Current –Continuous	-2	A
P _C	Collector Power Dissipation	900	mW
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55-150	°C

ORDERING INFORMATION

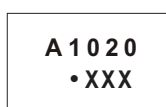
Part Number	Package	Packing Method	Pack Quantity
2SA1020	TO-92L	Bulk	500pcs/Bag
2SA1020-TA	TO-92L	Tape	2000pcs/Box

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C = -100μA, I _E = 0	-50			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C = -10mA, I _B = 0	-50			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E = -100μA, I _C = 0	-5			V
Collector cut-off current	I _{CBO}	V _{CB} = -50V, I _E = 0			-1	μA
Emitter cut-off current	I _{EBO}	V _{EB} = -5V, I _C = 0			-1	μA
DC current gain	h _{FE(1)}	V _{CE} = -2V, I _C = -0.5A	70		240	
	h _{FE(2)}	V _{CE} = -2V, I _C = -1.5A	40			
Collector-emitter saturation voltage	V _{CE(sat)}	I _C = -1A, I _B = -50mA			-0.5	V
Base-emitter saturation voltage	V _{BE(sat)}	I _C = -1A, I _B = -50mA			-1.2	V
Transition frequency	f _T	V _{CE} = -2V, I _C = -500mA		100		MHz
Collector output capacitance	C _{ob}	V _{CB} = -10V, I _E = 0, f = 1MHz		40		pF
Turn-on time	t _{on}	V _{CC} = -30V, I _{B1} = -I _{B2} = -0.05A, I _C = -1A		0.1		μs
Storage time	t _s			1		μs
Fall time	t _f			0.1		μs

CLASSIFICATION OF h_{FE(1)}

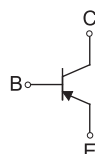
Rank	O	Y
Range	70-140	120-240

MARKING

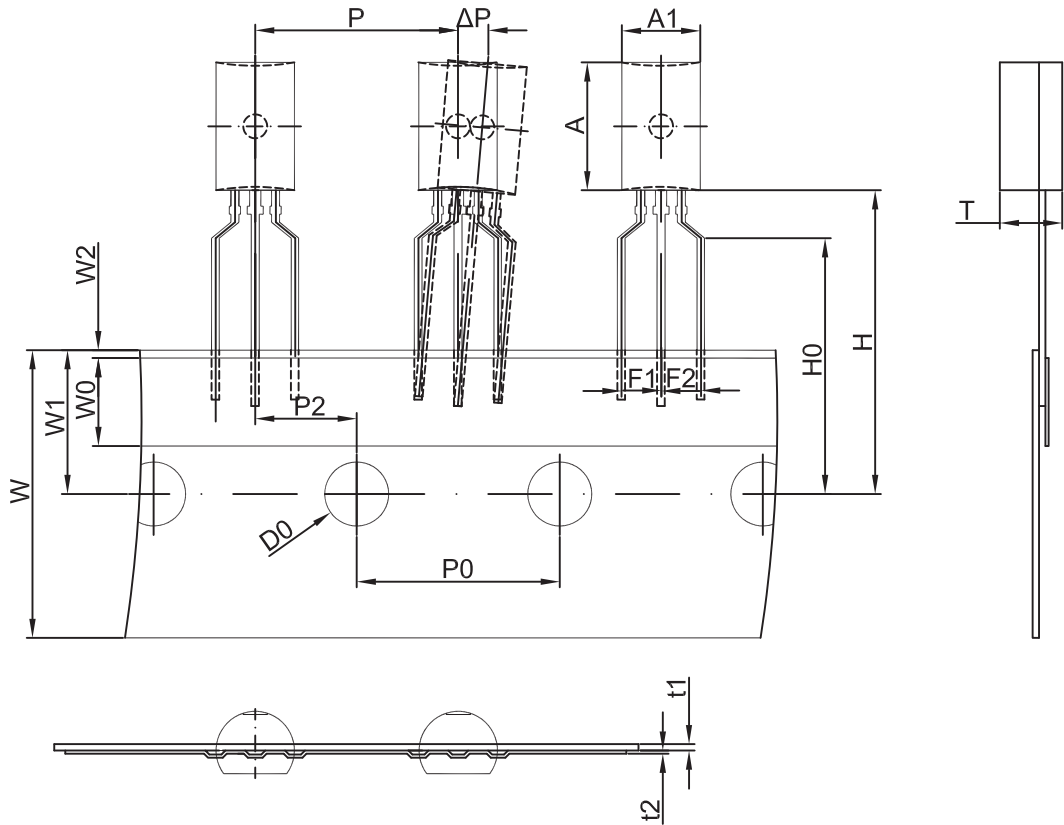


A1020=Device code
 Solid dot = Green molding compound device,
 if none, the normal device
 XXX=Code

Equivalent Circuit

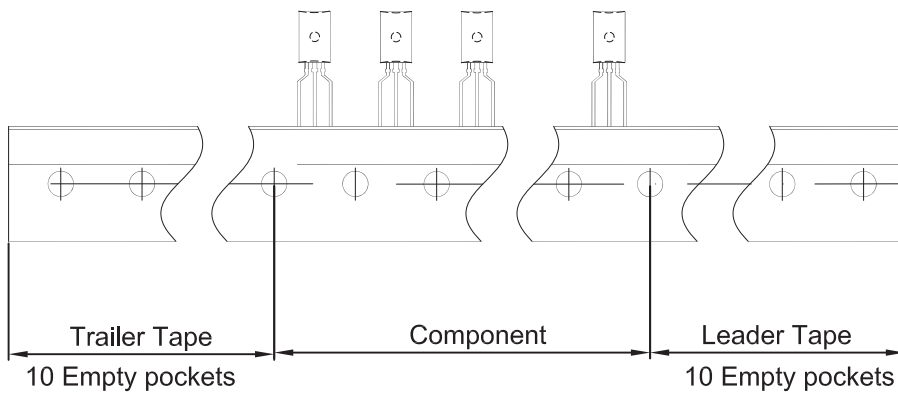


TO-92L PACKAGE TAPEING DIMENSION



Dimensions are in millimeter

A1	A	T	P	P0	P2	F1	F2	W
4.9	8.0	3.9	12.7	12.7	6.35	2.5	2.5	18.0
W0	W1	W2	H	H0	D0	t1	t2	ΔP
6.0	9.0	1.0	19.0	16.0	4.0	0.4	0.2	0



Package	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92L	2000 pcs	333×203×42	20,000 pcs	493×400×264