

TO-92L Plastic-Encapsulate Transistors

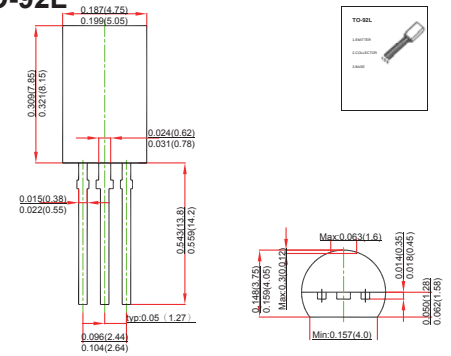
FEATURES

- Excellent Linearity of Current Gain
- Low saturation voltage
- Complementary to TPT5610
- TRANSISTOR (NPN)

MECHANICAL DATA

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

TO-92L



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector- Base Voltage	25	V
V_{CEO}	Collector-Emitter Voltage	20	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	1	A
P_C	Collector Power Dissipation	0.75	W
T_J	Junction Temperature	150	°C
T_{stg}	Storage Temperature	-55-150	°C

ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
TPT5609	TO-92L	Bulk	500pcs/Bag
TPT5609-TA	TO-92L	Tape	2000pcs/Box

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 10\mu A, I_E = 0$	25			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1mA, I_B = 0$	20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 10\mu A, I_C = 0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB} = 20V, I_E = 0$			1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5V, I_C = 0$			1	μA
DC current gain	h_{FE}	$V_{CE} = 2V, I_C = 500mA$	60		240	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 800mA, I_B = 80mA$			0.5	V
Base-emitter voltage	V_{BE}	$V_{CE} = 2V, I_C = 500mA$			1	V
Transition frequency	f_T	$V_{CE} = 2V, I_C = 500mA$		190		MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$		22		pF

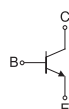
CLASSIFICATION OF h_{FE}

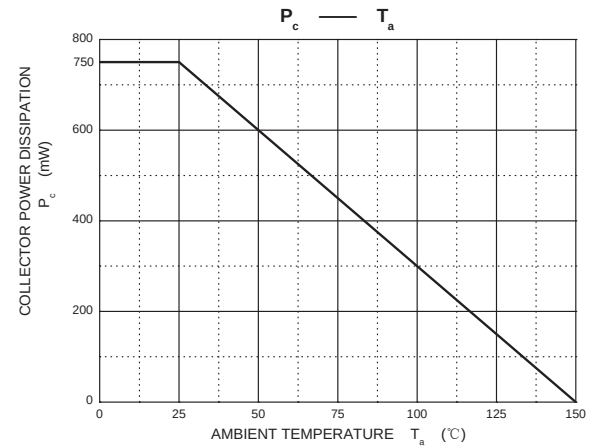
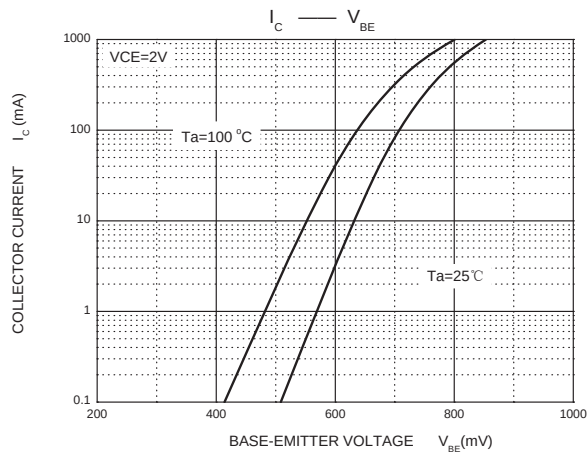
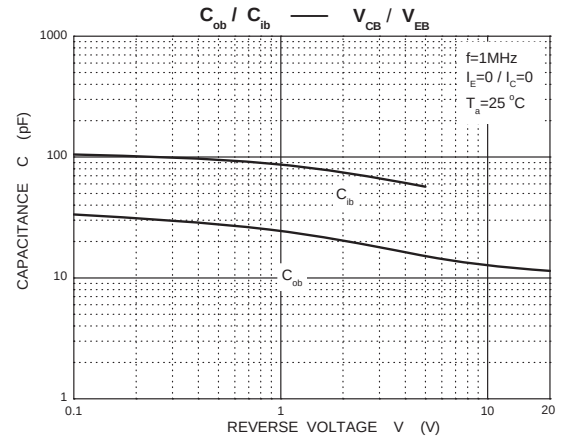
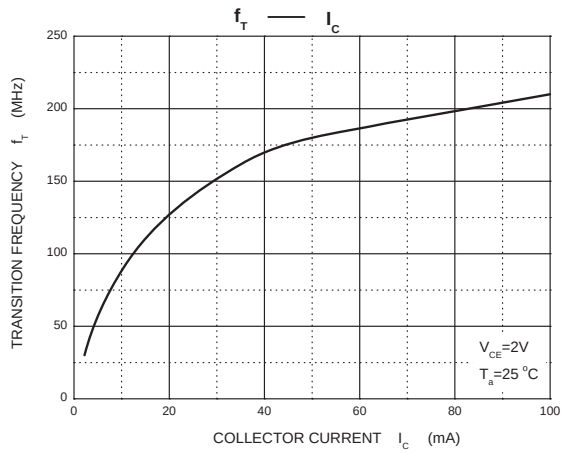
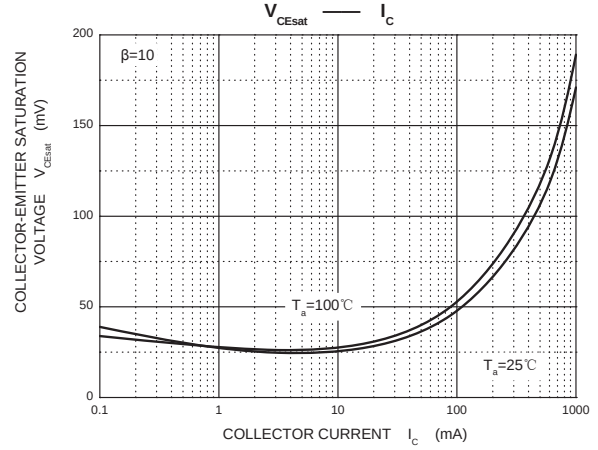
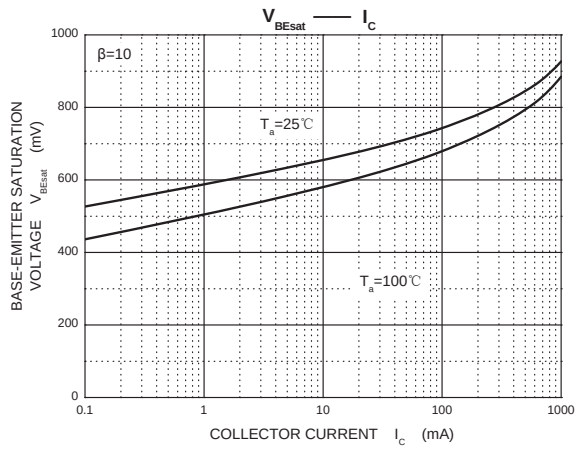
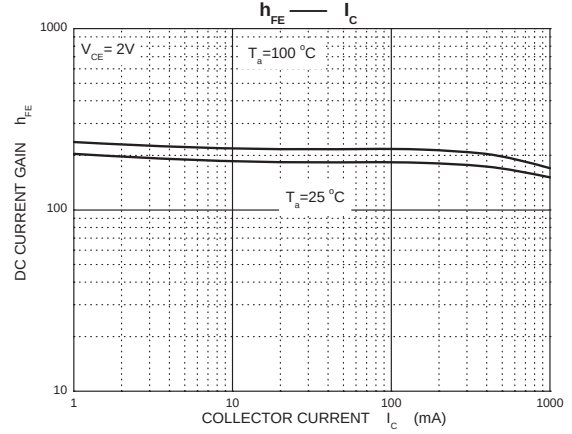
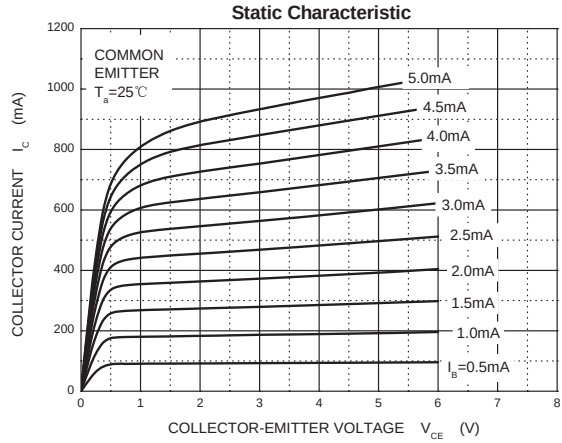
Rank	A	B	C
Range	60-120	85-170	120-240

MARKING

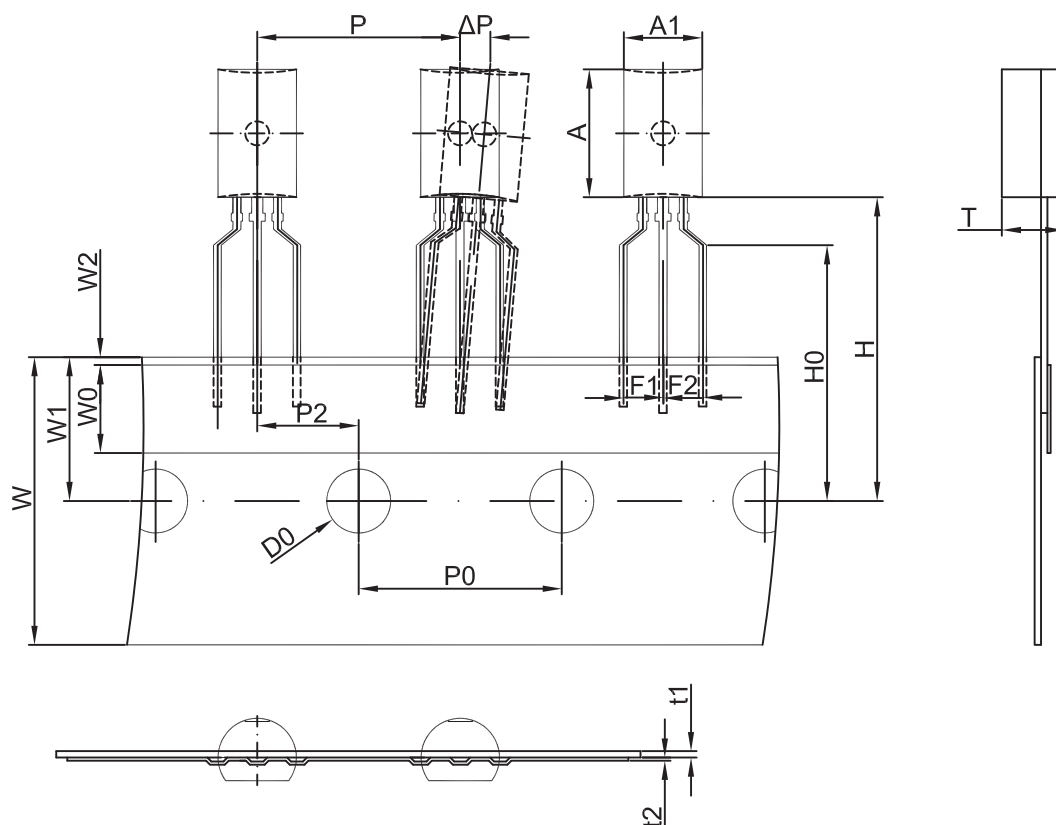
Equivalent Circuit

TPT5609	—B	TPT5609=Device code
• XXX	—C	Solid dot = Green molding compound device,
	—E	if none, the normal device
		XXX=Code



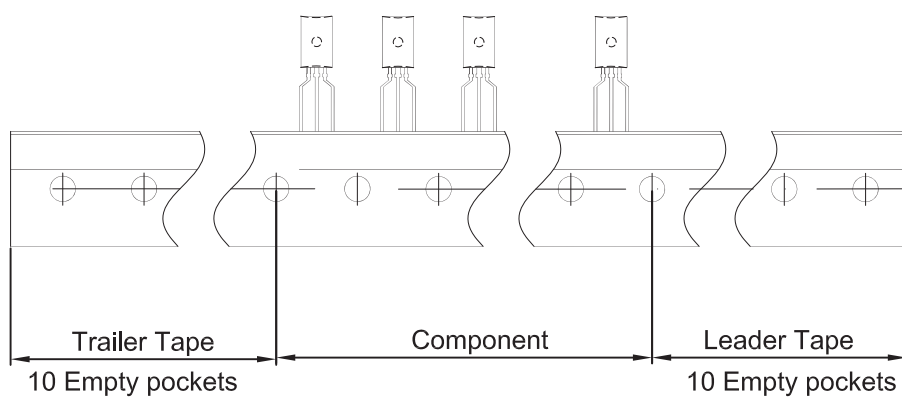


TO-92L PACKAGE TAPEING DIMENSION



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