



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-92L Plastic-Encapsulate Transistors

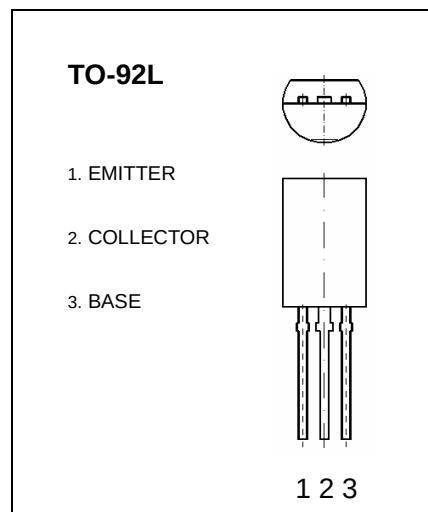
TPT5609 TRANSISTOR (NPN)

FEATURES

- Excellent linearity of Current Gain
- Low saturation voltage
- Complementary to TPT5610

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
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	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55-150	$^{\circ}\text{C}$



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

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

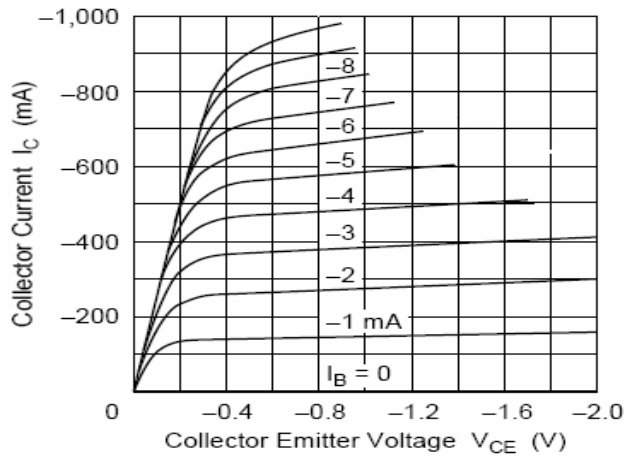
CLASSIFICATION OF h_{FE}

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

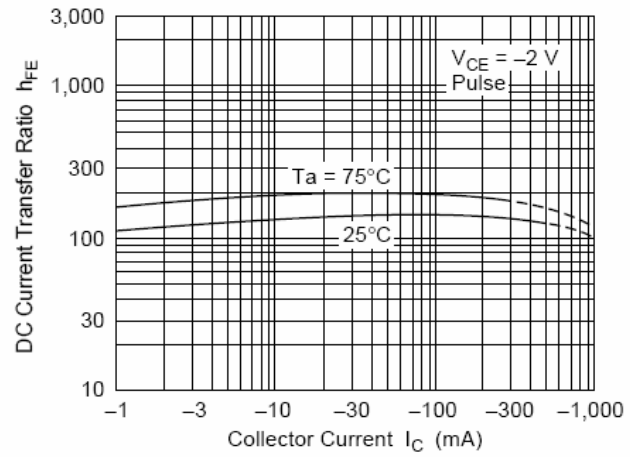
Typical Characteristics

TPT5609

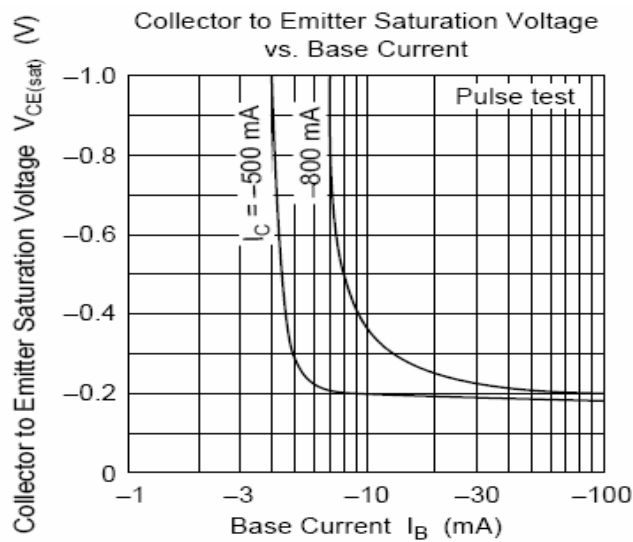
Typical Output Characteristics



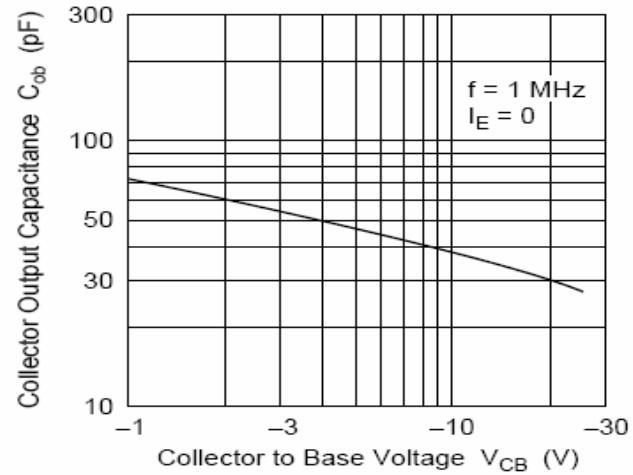
DC Current Transfer Ratio vs. Collector Current



Collector to Emitter Saturation Voltage vs. Base Current



Collector Output Capacitance vs. Collector to Base Voltage



Maximum Collector Dissipation Curve

