

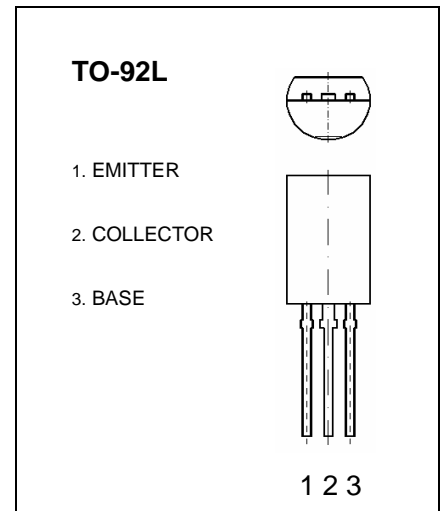
## TPT5609 TRANSISTOR (NPN)

### FEATURES

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

### MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise noted)

Symbol	Parameter	Value	Units
V <sub>CB0</sub>	Collector- Base Voltage	25	V
V <sub>CEO</sub>	Collector-Emitter Voltage	20	V
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current -Continuous	1	A
P <sub>C</sub>	Collector Power Dissipation	0.75	W
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-55-150	°C



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

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = 10μA, I <sub>E</sub> = 0	25			V
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = 1mA, I <sub>B</sub> = 0	20			V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = 10μA, I <sub>C</sub> = 0	5			V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> = 20V, I <sub>E</sub> = 0			1	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = 5V, I <sub>C</sub> = 0			1	μA
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> = 2V, I <sub>C</sub> = 500mA	60		240	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 800mA, I <sub>B</sub> = 80mA			0.5	V
Base-emitter voltage	V <sub>BE</sub>	V <sub>CE</sub> = 2V, I <sub>C</sub> = 500mA			1	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = 2V, I <sub>C</sub> = 500mA		190		MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0, f = 1MHz		22		pF

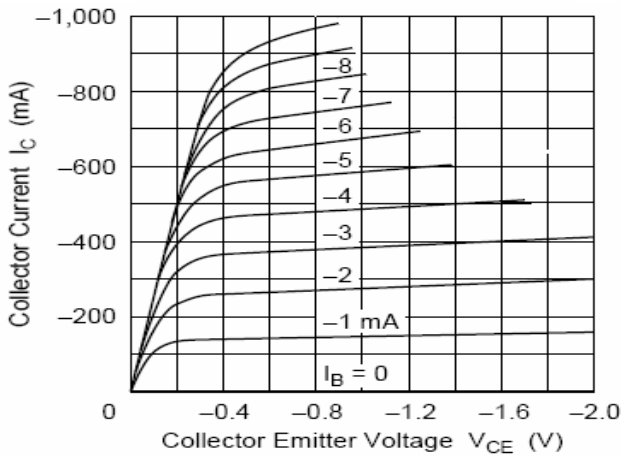
### CLASSIFICATION OF h<sub>FE</sub>

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

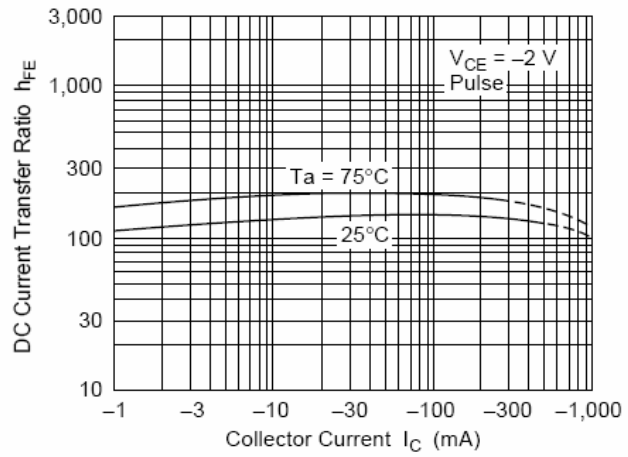
# Typical Characteristics

TPT5609

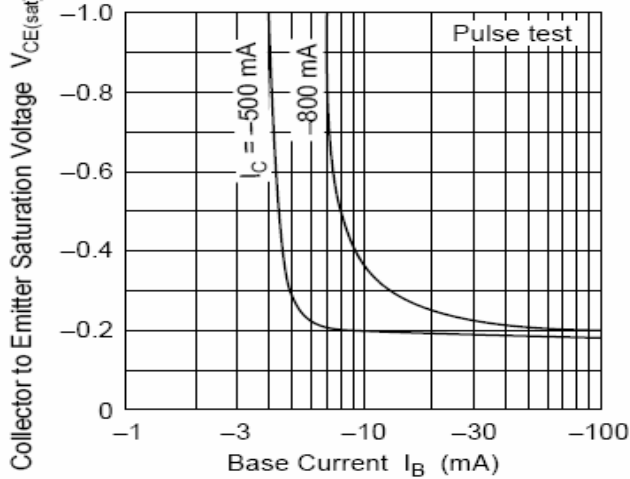
Typical Output Characteristics



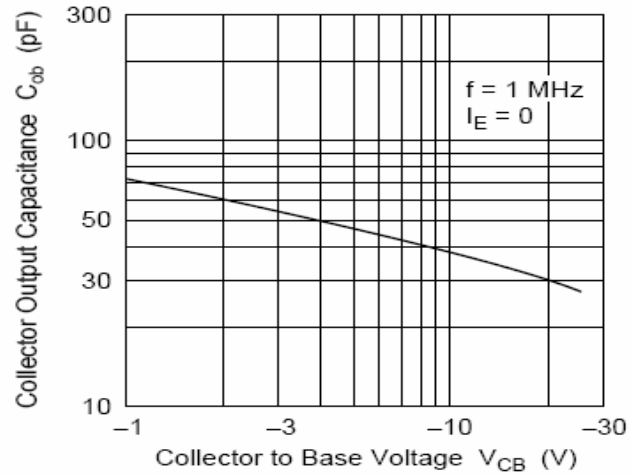
DC Current Transfer Ratio vs. Collector Current



Collector to Emitter Saturation Voltage vs. Base Current



Collector Output Capacitance vs. Collector to Base Voltage



Maximum Collector Dissipation Curve

