



Micro Commercial Components

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TPT5609

NPN Epitaxial Silicon Transistor

Features

- Excellent linearity of Current Gain
- Low saturation voltage

Maximum Ratings

Symbol	Rating	Rating	Unit
V_{CEO}	Collector-Emitter Voltage	20	V
V_{CBO}	Collector-Base Voltage	25	V
V_{EBO}	Emitter-Base Voltage	5.0	V
I_C	Collector Current	1.0	A
P_C	Collector power dissipation	0.75	W
T_J	Junction Temperature	-55 to +150	$^{\circ}C$
T_{STG}	Storage Temperature	-55 to +150	$^{\circ}C$

Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Typ	Max	Units
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OFF CHARACTERISTICS

BV_{CBO}	Collector-Base Breakdown Voltage ($I_C=10\mu A_{dc}, I_E=0$)	25	---	---	Vdc
BV_{CEO}	Collector-Emitter Breakdown Voltage ($I_C=1mA_{dc}, I_B=0$)	20	---	---	Vdc
BV_{EBO}	Emitter-Base Breakdown Voltage ($I_E=10\mu A_{dc}, I_C=0$)	5.0	---	---	Vdc
I_{CBO}	Collector Cutoff Current ($V_{CB}=20V_{dc}, I_E=0$)	---	---	1	μA_{dc}
I_{EBO}	Emitter Cutoff Current ($V_{EB}=5.0V_{dc}, I_C=0$)	---	---	1	μA_{dc}

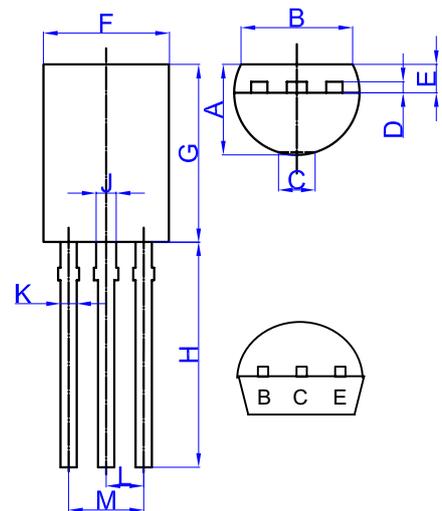
ON CHARACTERISTICS

h_{FE}	DC Current gain ($I_C=500mA_{dc}, V_{CE}=2.0V_{dc}$)	60	---	240	---
$V_{BE(on)}$	Base-Emitter On Voltage ($V_{CE}=2.0V_{dc}, I_C=500mA_{dc}$)	---	---	1.0	Vdc
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=800mA_{dc}, I_B=80mA_{dc}$)	---	---	0.5	Vdc
f_T	Current Gain Bandwidth Product ($V_{CE}=2.0V_{dc}, I_C=500mA_{dc}$)	---	190	---	MHz
C_{ob}	Output Capacitance ($V_{CB}=10V_{dc}, I_E=0, f=1.0MHz$)	---	22	---	pF

CLASSIFICATION OF h_{FE}

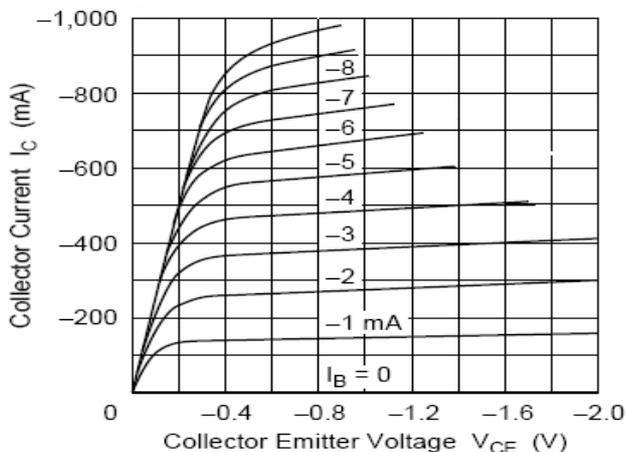
Rank	A	B	C
Range	60-120	85-170	120-240

TO-92L

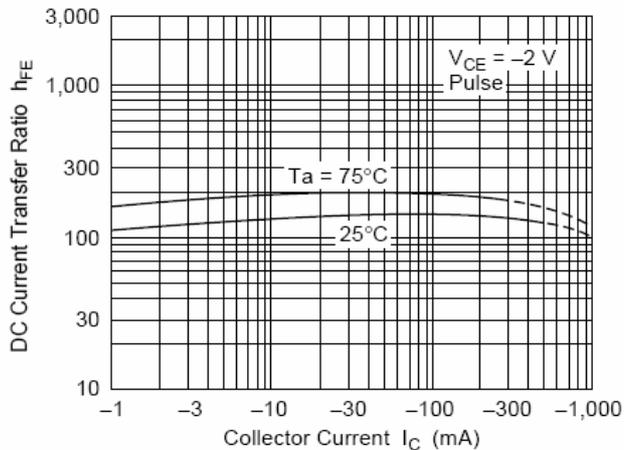


DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	3.700	4.100	.146	.161	
B	4.000	---	.157	---	
C	0.000	0.300	0.000	0.012	
D	0.350	0.450	.014	.018	
E	1.280	1.580	.050	.062	
F	4.700	5.100	.185	.201	
G	7.800	8.200	.307	.323	
H	13.80	14.20	.543	.559	
J	.600	.800	.024	.031	
K	0.350	.550	.014	.022	
L	1.270		.050		
M	2.440	2.640	.096	.104	

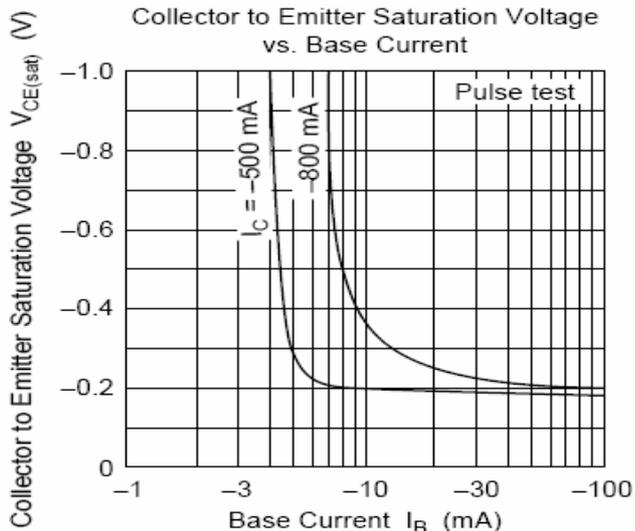
Typical Output Characteristics



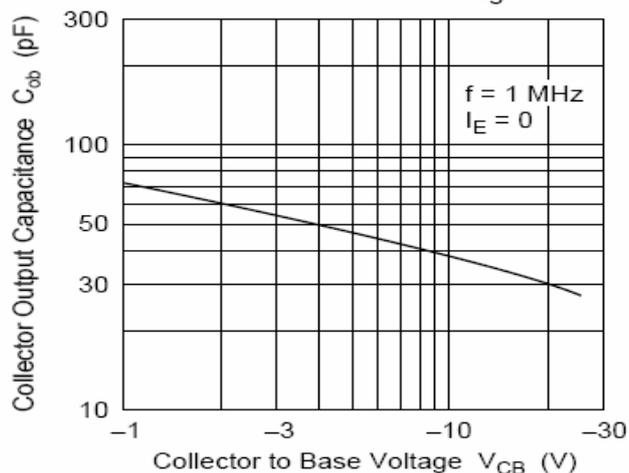
DC Current Transfer Ratio vs. Collector Current



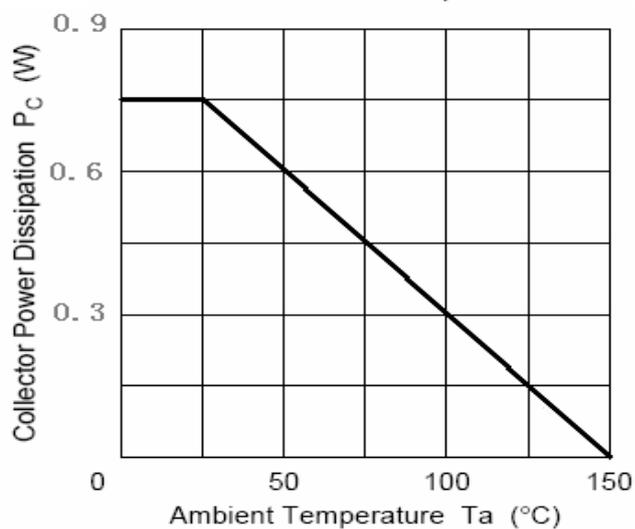
Collector to Emitter Saturation Voltage vs. Base Current



Collector Output Capacitance vs. Collector to Base Voltage



Maximum Collector Dissipation Curve





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