TPBT60N5Y3

NPN General Purpose Transistor

Product Summary

- BVCBO ≥ 60V(IC=0.1mA)
- BVCEO ≥ 60V(IC=10mA)
- IC = 5.2A

Features

- Consumer electronics
- Voltage switching
- High Speed Switching

Circuit diagram and pin information

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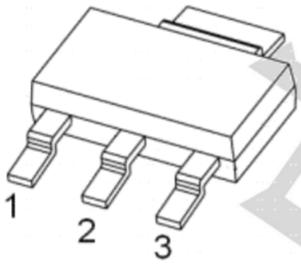
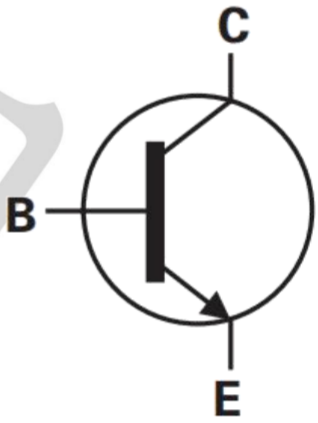


1. BASE
2. COLLECTOR
3. EMITTER



Absolute Maximum Ratings

(Ta=25°C unless otherwise specified)

PARAMETER	SYMBOL	LIMIT	UNIT
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current (DC)	I_C	5.2	A
Collector Peak Current (Pulse) Single pulse, Pw ≤ 380μs, Duty ≤ 2%	I_{CM}	10	A
Power Total Dissipation @ T_A=25ºC	P_D	700	mW
Maximum Operating Junction Temperature	T_J	+150	°C
Storage Temperature Range	TSTG	-55 to +150	°C

Electrical Characteristics

(TA=25°C unless otherwise specified)

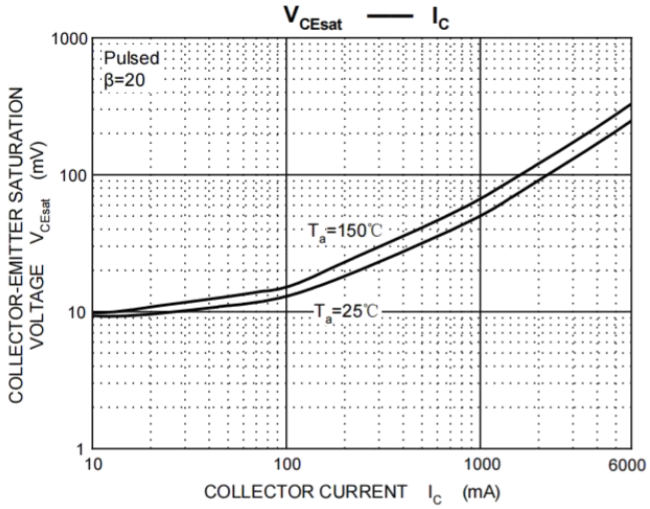
PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Static (Note 1)						
Collector-Base Breakdown Voltage	I_C = 0.1mA,IE=0	BV_{CBO}	60	--	--	V
Collector-Emitter Breakdown Voltage	I_C = 10mA,IB=0	BV_{CEO}	60	--	--	V
Emitter-Base Breakdown Voltage	I_E = 0.1mA,IC=0	BV_{EBO}	5	--	--	V
Collector Cutoff Current	V_{CB} = 60V,IE=0	I_{CBO}	--	--	100	nA
Emitter Cutoff Current	V_{EB} = 5V,IC=0	I_{EBO}	--	--	100	nA
Collector-Emitter Saturation Voltage	I_C=0.5A, I_B =0.05A	$V_{CE(SAT)}$	--	--	0.035	V
Base-Emitter Saturation Voltage	I_C=1A, I_B =0.05A	$V_{BE(SAT)}$	--	--	0.07	V
DC Current Transfer Ratio	V_{CE} =2V, I_C=0.5A	h_{FE1}	300	520	--	
	V_{CE} =2V, I_C=1A	h_{FE2}	300	500	--	
	V_{CE} =2V, I_C=2A	h_{FE3}	250	470	--	
	V_{CE} =2V, I_C=4A	h_{FE4}	150	250	--	
	V_{CE} =2V, I_C=5A	h_{FE5}	80	120	--	
Dynamic (Note 2)						
Transition Frequency	V_{CE} =10V, I_C=100mA, f=50MHz	f_T	30	--	--	MHz
Collector Output Capacitance	V_{CB} =10V, I_E=0A, f=10MHz	C_{ob}	--	25	--	pF

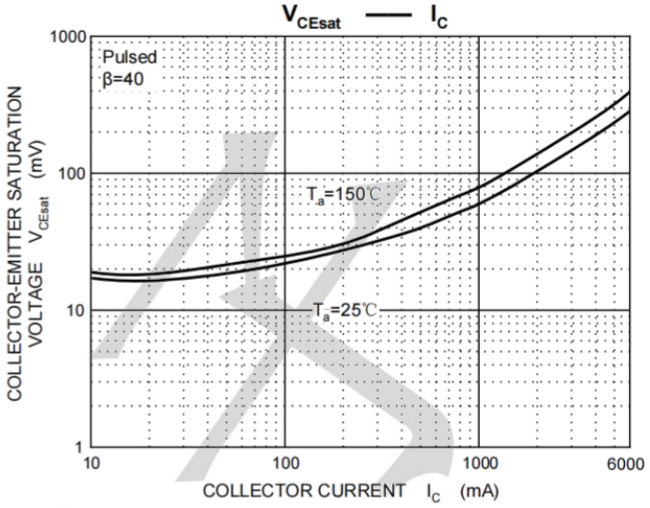
Note:

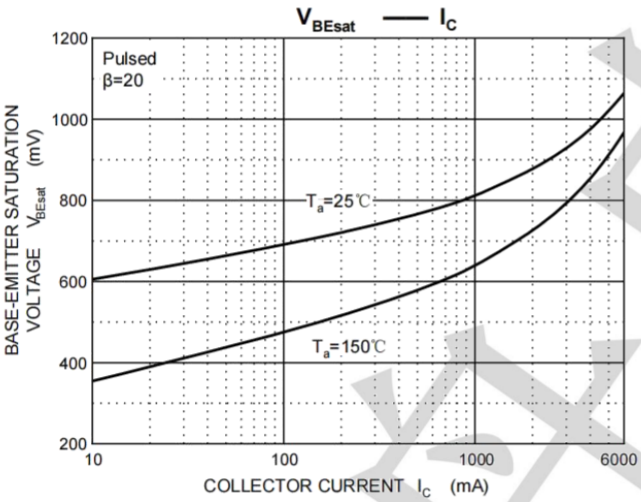
1.Pulse test: ≤380μs, duty cycle ≤2%

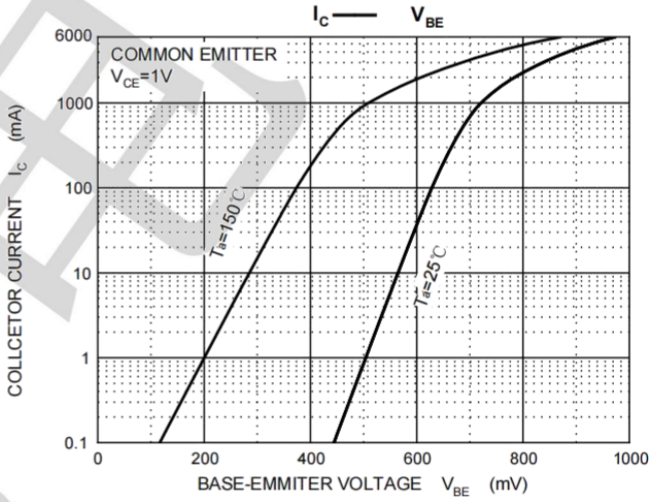
2.For DESIGN AID ONLY, not subject to production testing

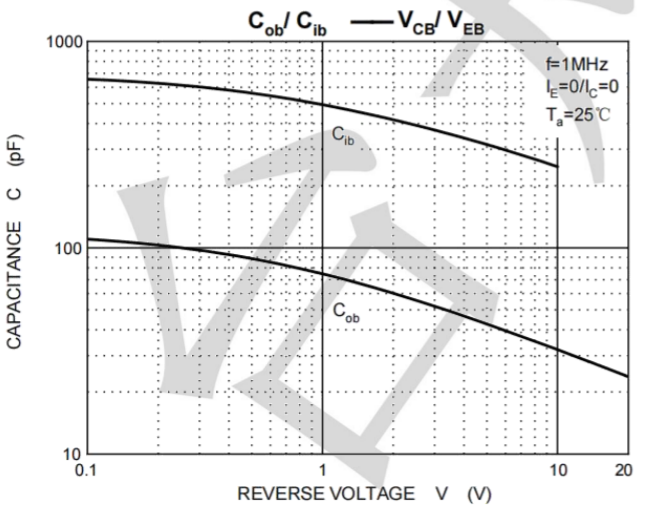
Typical Performance Characteristics(TA=25°C)

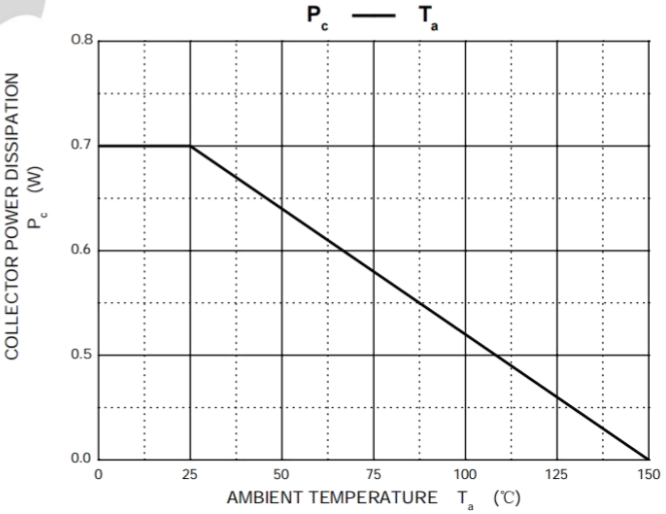












Package Outline Dimensions (unit: mm)

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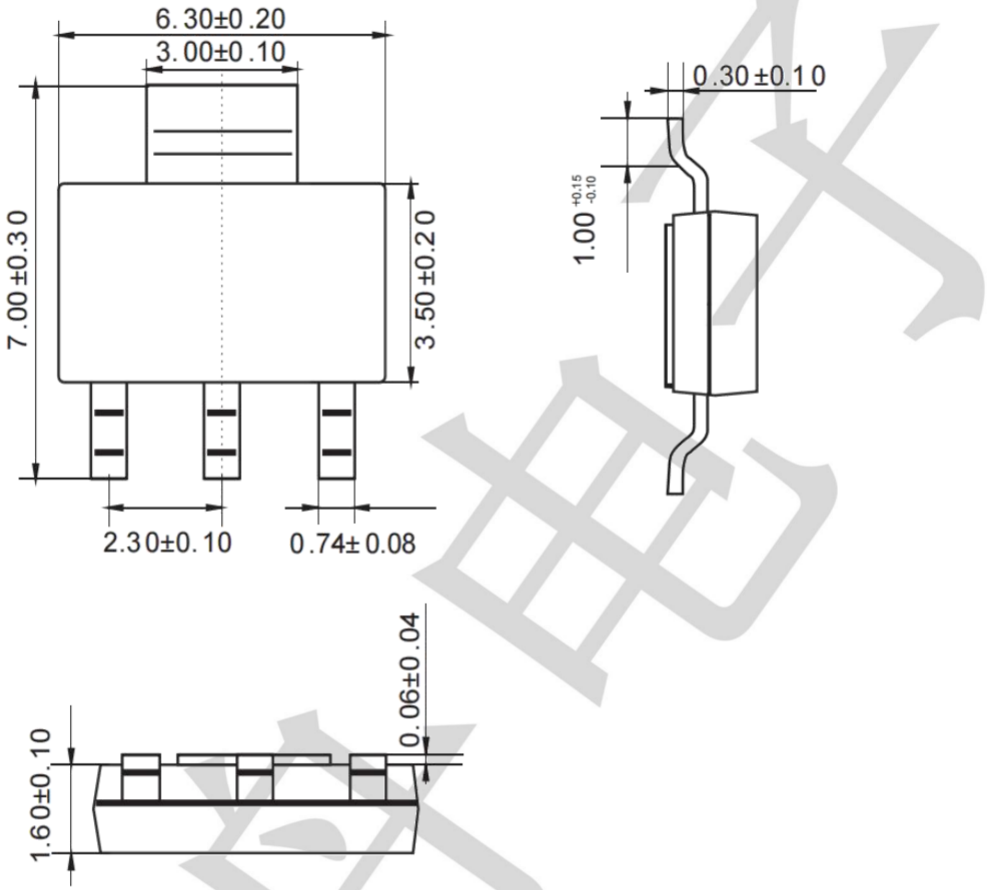

Mounting Pad Layout (unit: mm)