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TPMMBTA28

NPN General Purpose Transistor

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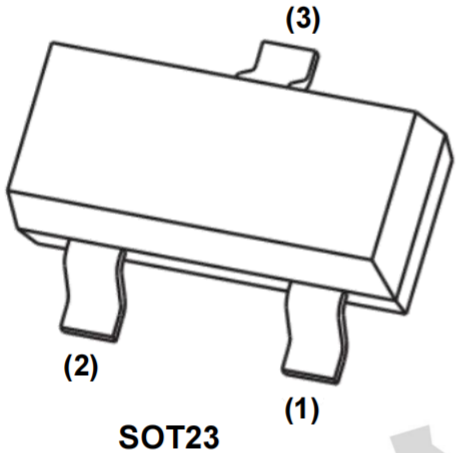
Product Summary

- BVCES ≥ 80V(IC=100μA)
- IC 300mA

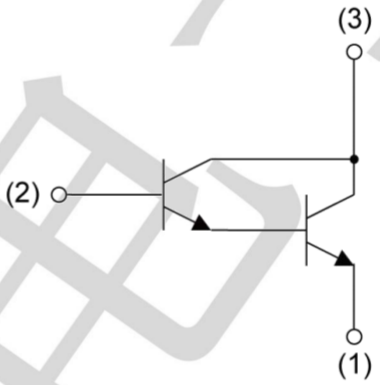
Features

- High DC Current Gain
- Darlington connection

Circuit diagram and pin information



SOT23



(1) Emitter
(2) Base
(3) Collector

Absolute Maximum Ratings

(Tamb=25°C unless otherwise specified)

Parameter	Symbol	Values	Unit
Collector-base voltage	V_{CBO}	80	V
Collector-emitter voltage	V_{CES}	80	V
Emitter-base voltage	V_{EBO}	12	V
Collector current	I_C	300	mA
Power dissipation	P_D	200	mW
Junction temperature	T_j	150	℃
Range of storage temperature	T_{stg}	-55 to +150	℃

Electrical Characteristics

(TA=25°C unless otherwise specified)

Parameter	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
Collector-base breakdown voltage	BV_{CBO}	I_C = 100μA	80	--	--	V
Collector-emitter breakdown voltage	BV_{CES}	I_C = 100μA	80	--	--	V
Emitter-base breakdown voltage	BV_{EBO}	I_E = 10μA	12	--	--	V
Collector cut-off current	I_{CBO}	V_{CB} = 60V	--	--	100	nA
	I_{CES}	V_{CE} = 10V	--	--	500	nA
Emitter cut-off current	I_{EBO}	V_{EB} = 10V	--	--	100	nA
Collector-emitter saturation voltage	$V_{CE(sat)}1$	I_C = 10mA, I_B = 10μA	--	0.7	1.2	V
	$V_{CE(sat)}2$	I_C = 100mA, I_B = 100μA	--	0.8	1.5	V
Base-emitter turn on voltage	$V_{BE(on)}$	V_{CE} = 5V, I_C = 100mA	--	1.4	2.0	V
DC current gain	$h_{FE}1$	V_{CE} = 5V, I_C = 10mA	10k	--	--	--
	$h_{FE}2$	V_{CE} = 5V, I_C = 100mA	10k	--	--	
Transition frequency	f_T	V_{CE}=5V, I_E=-10mA, f = 100MHz	125	200	--	MHz
Output capacitance	C_{ob}	V_{CB} = 10V, I_E = 0A, f = 1MHz	--	5.0	8.0	pF

Note :Pulse Test: Pulse Width≤380μs, Duty Cycle≤2%

Typical Performance Characteristics(TA=25°C)

Fig.1 Ground Emitter Propagation Characteristics

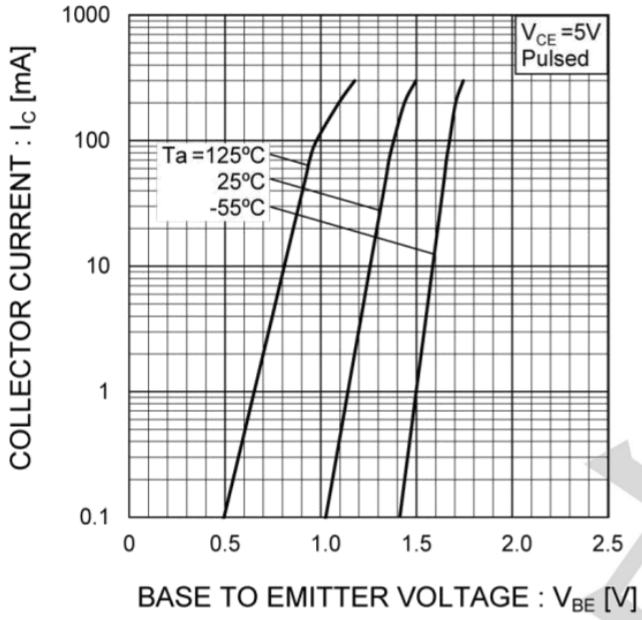


Fig.2 Grounded Emitter Output Characteristics

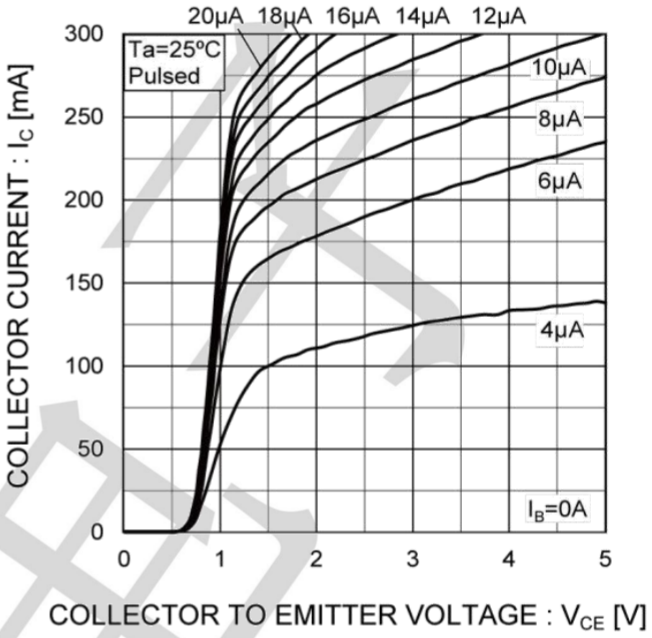


Fig.3 DC Current Gain vs. Collector Current (I)

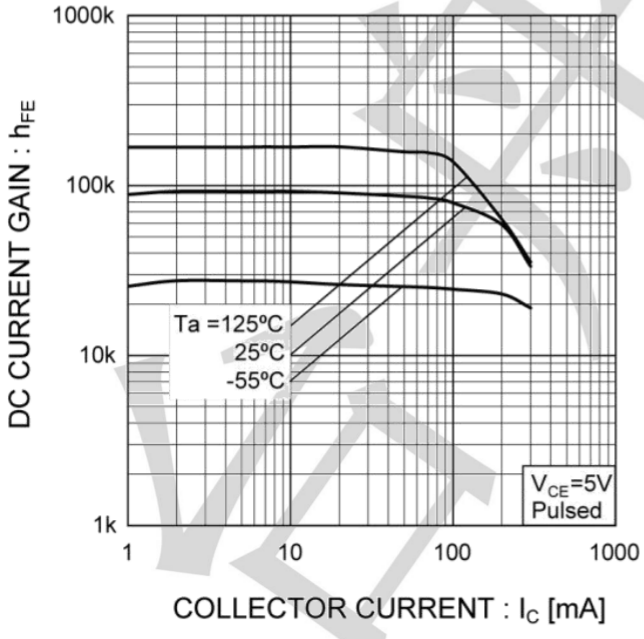
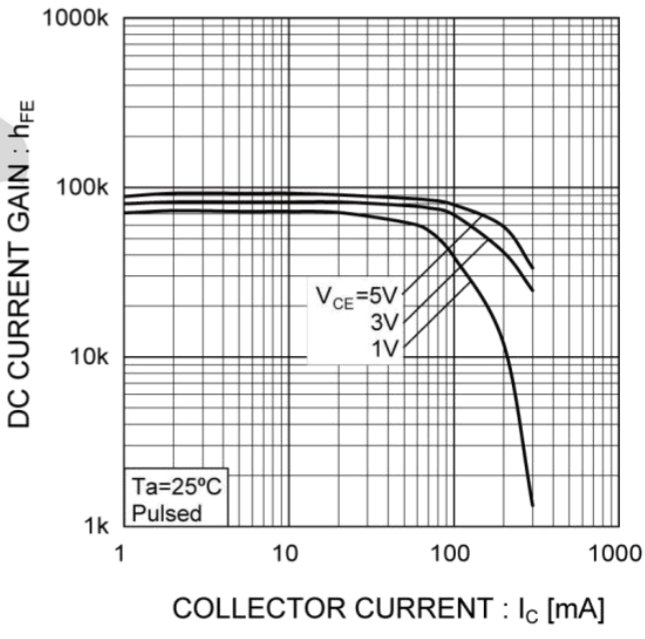


Fig.4 DC Current Gain vs. Collector Current (II)



Typical Performance Characteristics(TA=25°C)

Fig.5 Collector-Emitter Saturation Voltage vs. Collector Current(I)

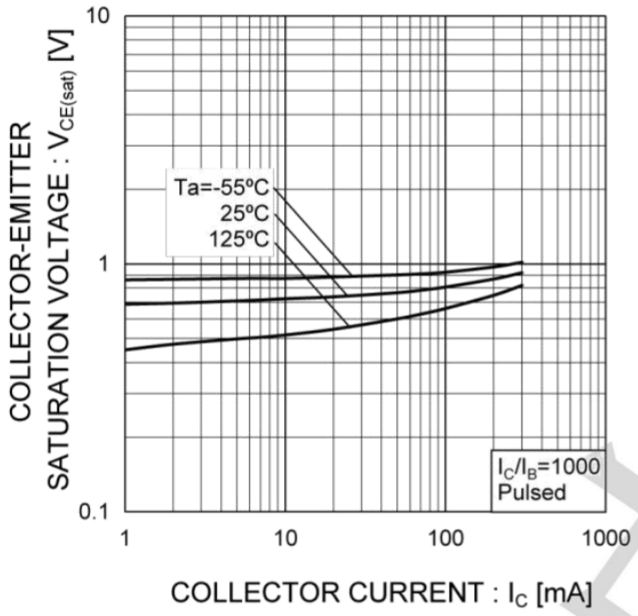


Fig.6 Collector-Emitter Saturation Voltage vs. Collector Current(II)

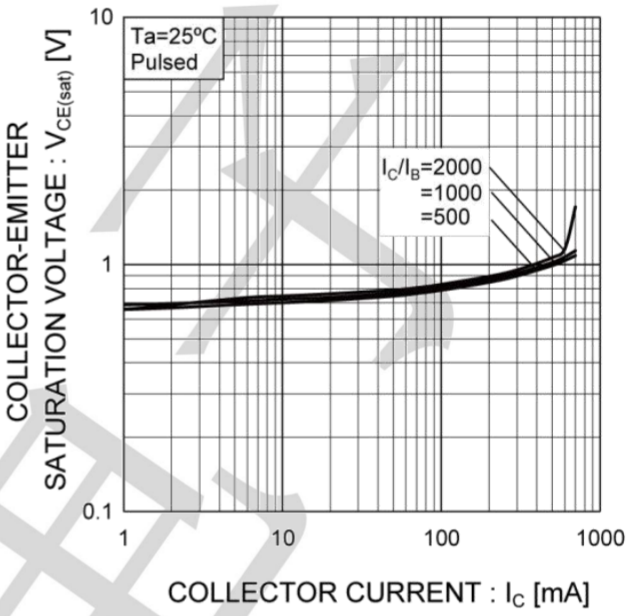


Fig.7 Base-Emitter Saturation Voltage vs. Collector Current (I)

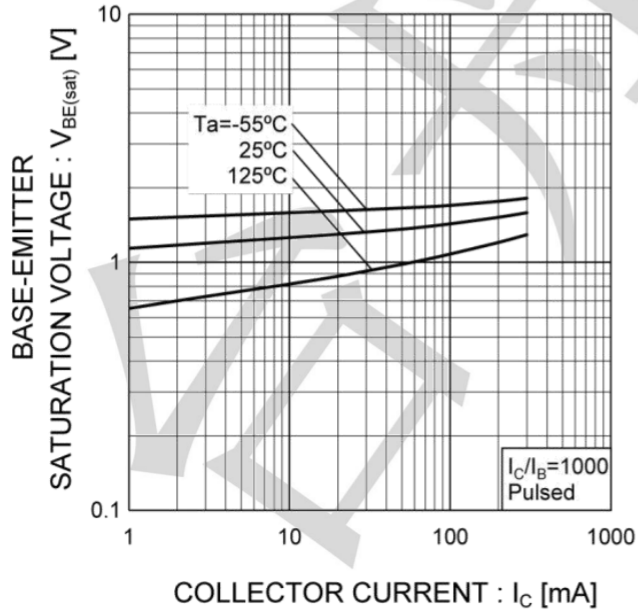
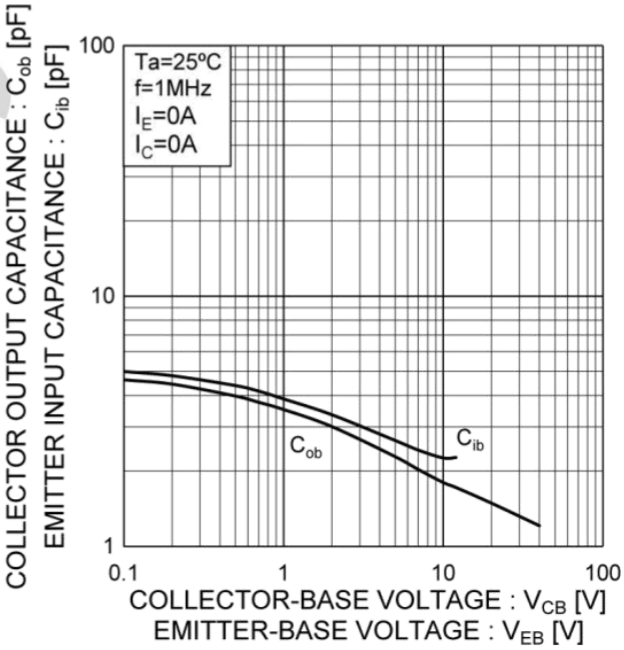
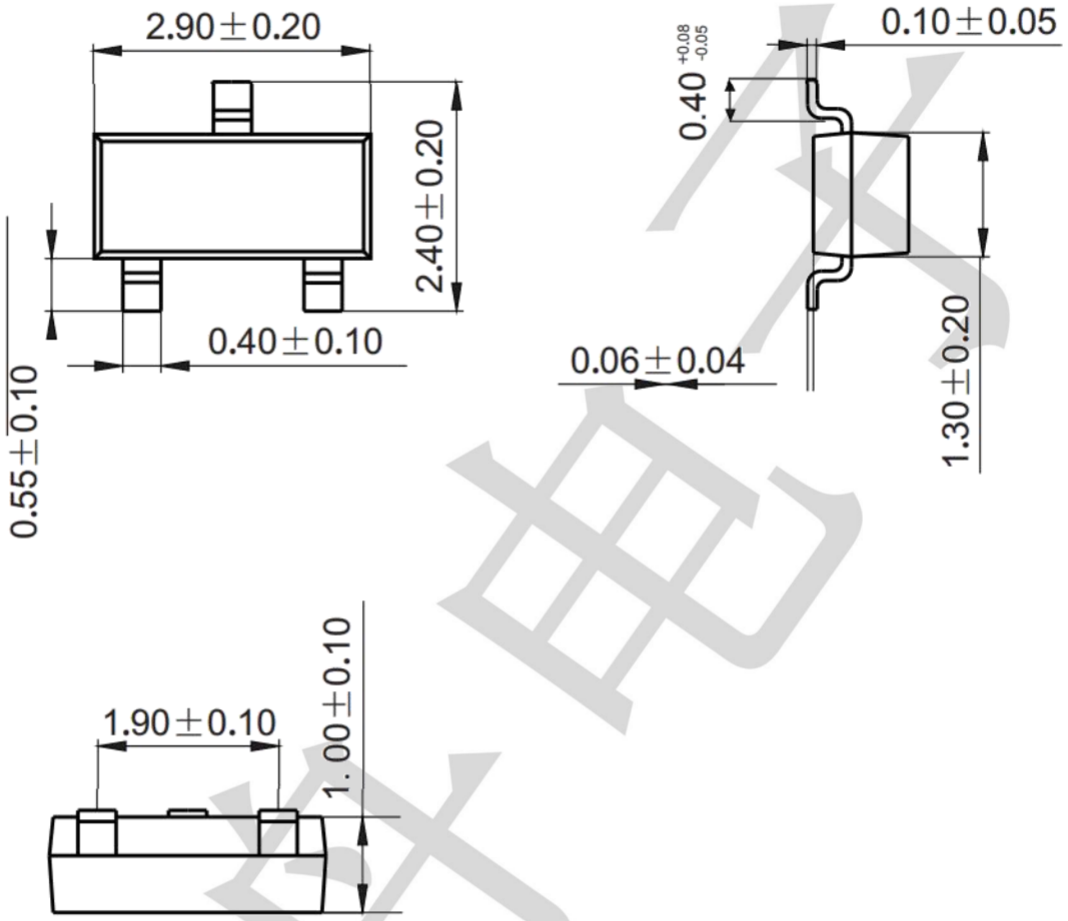


Fig.8 Collector Output Capacitance vs. Collector-Base Voltage
Emitter Input Capacitance vs. Emitter-Base Voltage



Package Outline Dimensions (unit: mm)

SOT23



Mounting Pad Layout (unit: mm)

