TOSHIBA Transistor Silicon PNP Diffused Type (PCT process)

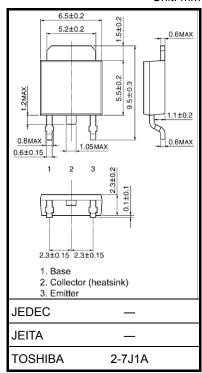
2SB906

Audio Frequency Power Amplifier Application

- Low collector saturation voltage
- : V_{CE} (sat) = -1.0 V (typ.) (I_C = -3 A, I_B = -0.3 A)
- High power dissipation: $P_C = 20 \text{ W} (T_c = 25^{\circ}C)$
- Complementary to 2SD1221

Absolute Maximum Ratings (Ta = 25°C)

Characteristics		Symbol	Rating	Unit	
Collector-base voltage		V _{CBO}	-60	V	
Collector-emitter voltage		V _{CEO}	-60	V	
Emitter-base voltage		V _{EBO}	-7	V	
Collector current		Ι _C	-3	А	
Base current		Ι _Β	-0.5	А	
Collector power dissipation	Ta = 25°C	Pc	1.0	W	
	Tc = 25°C	ιc	20		
Junction temperature		Тј	150	°C	
Storage temperature range		T _{stg}	−55 to 150	°C	



Weight: 0.36 g (typ.)

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in

temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings. Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/Derating Concept and Methods) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

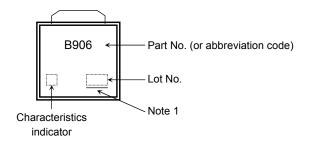
Unit: mm

Electrical Characteristics (Ta = 25°C)

Characteristics		Symbol	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current		I _{CBO}	$V_{CB} = -60 \text{ V}, I_E = 0$	_	_	-100	μA
Emitter cut-off cur	rrent	I _{EBO}	$V_{EB} = -7 V, I_C = 0$	_	_	-100	μA
Collector-emitter	breakdown voltage	V (BR) CEO	I _C = -50 mA, I _B = 0	-60	_	_	V
DC current gain		h _{FE (1)} (Note)	V _{CE} = -5 V, I _C = -0.5 A	60	_	200	
		h _{FE (2)}	V _{CE} = -5 V, I _C = -3 A	20	_	—	
Collector-emitter	saturation voltage	V _{CE (sat)}	I _C = -3 A, I _B = -0.3 A	_	-1.0	-1.7	V
Base-emitter voltage		V _{BE}	V_{CE} = -5 V, I _C = -0.5 A	_	-1.0	-1.5	V
Transition frequency		f _T	V_{CE} = -5 V, I _C = -0.5 A	_	9	_	MHz
Collector output capacitance		C _{ob}	V _{CB} = -10 V, I _E = 0, f = 1 MHz	-	90	_	pF
Switching time S	Turn-on time	t _{on}	$20 \ \mu s \qquad \text{INPUT} \qquad \downarrow B1 \qquad \text{OUTPUT} \\ \downarrow B2 \qquad \downarrow B2 \qquad \downarrow B2 \qquad \downarrow B2 \qquad \downarrow CCC = -30 \ V \\ -I_{B1} = I_{B2} = 0.2 \ \text{A, DUTY CYCLE} \le 1\%$	_	0.4	_	
	Storage time	t _{stg}		_	1.7	_	μs
	Fall time	t _f		_	0.5	_	

Note: hFE (1) classification O: 60 to 120, Y: 100 to 200

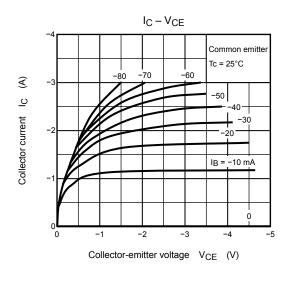
Marking

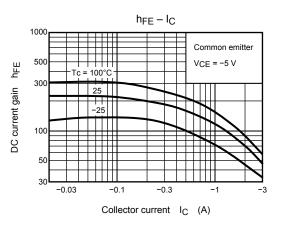


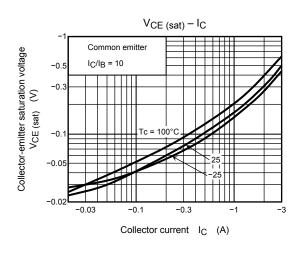
Note 1: A line under a Lot No. identifies the indication of product Labels. Not underlined: [[Pb]]/INCLUDES > MCV Underlined: [[G]]/RoHS COMPATIBLE or [[G]]/RoHS [[Pb]]

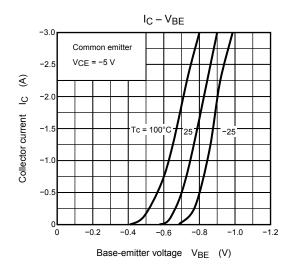
Please contact your TOSHIBA sales representative for details as to environmental matters such as the RoHS compatibility of Product. The RoHS is the Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

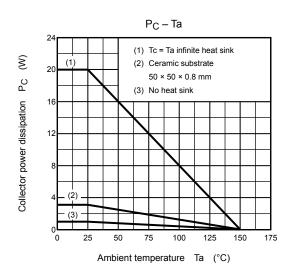
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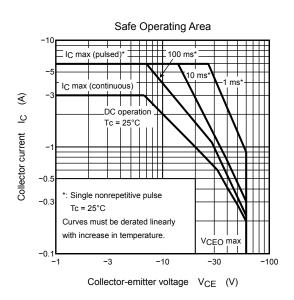












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