Unit: mm

TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT PROCESS)

2SA1931

High-Current Switching Applications

- Low saturation voltage: VCE (sat) = -0.4 V (max)
- High-speed switching time: $t_{stg} = 1.0 \mu s$ (typ.)
- Complementary to 2SC4881

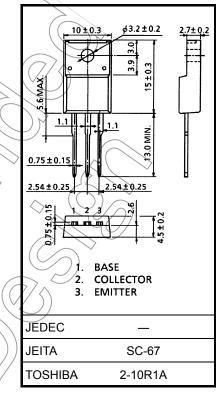
Absolute Maximum Ratings (Tc = 25°C)

Characteristic		Symbol	Rating	Unit	
Collector-base voltage		V _{CBO}	-60		
Collector-emitter voltage		V _{CEO}	-50	$\langle \langle \rangle \rangle$	
Emitter-base voltage		V _{EBO}	-7)>/	
Collector current		Ic	_5	A	
Base current		ΙΒ	1	A	
Collector power dissipation	Ta = 25°C	PC	2.0	W	
	Tc = 25°C	F C	20	W .	
Junction temperature		T _j	150	< <c c<="" td=""></c>	
Storage temperature range		T _{stg}	-55 to 150	°C/	

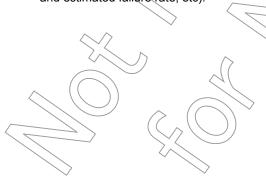
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the

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).



Weight: 1.7 g (typ.)

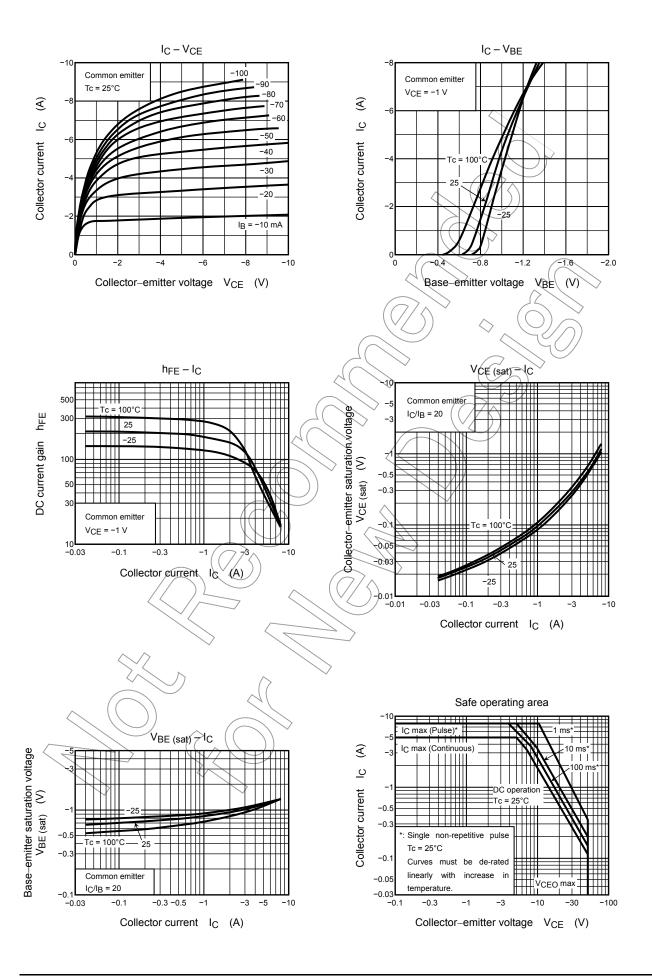


Electrical Characteristics (Tc = 25°C)

Char	racteristic	Symbol	Test Conditions	Min	Тур.	Max	Unit		
Collector cut-off of	current	I _{CBO}	V _{CB} = -50 V, I _E = 0	_	_	-1	μΑ		
Emitter cut-off cu	rrent	I _{EBO}	V _{EB} = -7 V, I _C = 0	_	_	-1	μΑ		
Collector-emitter	breakdown voltage	V (BR) CEO	I _C = -10 mA, I _B = 0	-50	_	_	V		
DC current gain		h _{FE (1)}	V _{CE} = -1 V, I _C = 1 A	100	_	300			
		h _{FE (2)}	V _{CE} = -1 V, I _C = -3 A	60) / _	_			
Collector-emitter	saturation voltage	V _{CE} (sat)	I _C = -2 A, I _B = -0.2 A	\nearrow	-0.2	-0.4	V		
Base-emitter satu	uration voltage	V _{BE} (sat)	I _C = -2 A, I _B = -0.2 A))	-0.9	-1.5	V		
Transition freque	ncy	f _T	V _{CB} = -1 V, I _C = -1 A	_	60	_	MHz		
Collector output of	capacitance	C _{ob}	V _{CB} = -10 V, I _E = 0, f = 1 MHz	^ —	100	_	pF		
Switching time	Turn-on time	t _{on}	20 μs Input B2 Output	-	0.1	\nearrow			
	Storage time	t _{stg}	IB2 (IB) VCC = -30 V		1.9) –	μs		
	Fall time	t _f	$-I_{B1} = I_{B2} = 0.15 \text{ A, duty cycle} \le 1\%$	7	0.1				

Marking Part No. (or abbreviation code) Lot No. A line indicates lead (Pb)-free package or lead (Pb)-free finish:

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20070701-EN

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