

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

2SD1187

HIGH POWER SWITCHING APPLICATIONS

DC-DC CONVERTER AND DC-AC INVERTER APPLICATIONS

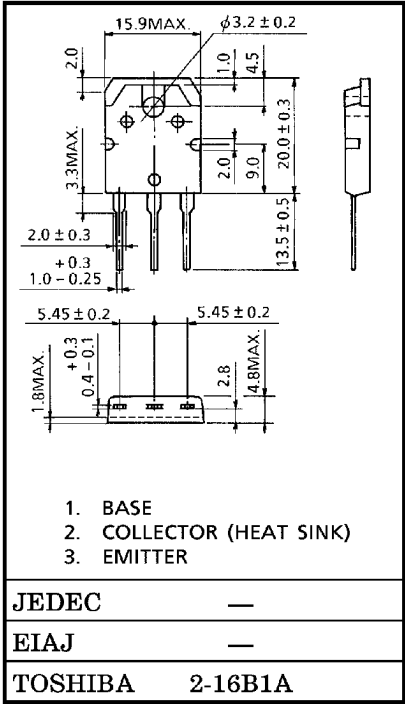
- Low Collector-Emitter Saturation Voltage : $V_{CE(sat)}=0.5V$ (Max.) ($I_C=6A$)
- High Collector Power Dissipation : $P_C=80W$ ($T_c=25^{\circ}C$)

MAXIMUM RATINGS ($T_a = 25^{\circ}C$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CB0}	100	V
Collector-Emitter Voltage	V_{CE0}	80	V
Emitter-Base Voltage	V_{EB0}	5	V
Collector Current	I_C	10	A
Base Current	I_B	2	A
Collector Power Dissipation ($T_c=25^{\circ}C$)	P_C	80	W
Junction Temperature	T_j	150	$^{\circ}C$
Storage Temperature Range	T_{stg}	$-55\sim150$	$^{\circ}C$

INDUSTRIAL APPLICATIONS

Unit in mm

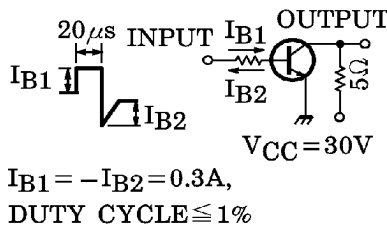


Weight : 4.6g

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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		ICBO	V _{CB} =100V, I _E =0	—	—	10	μA
Emitter Cut-off Current		IEBO	V _{EB} =5V, I _C =0	—	—	10	μA
Collector-Emitter Breakdown Voltage		V (BR) CEO	I _C =50mA, I _B =0	80	—	—	V
DC Current Gain	h _{FE} (1) (Note)		V _{CE} =1V, I _C =1A	70	—	240	
	h _{FE} (2)		V _{CE} =1V, I _C =6A	30	—	—	
Collector-Emitter Saturation Voltage		V _{CE} (sat)	I _C =6A, I _B =0.3A	—	0.3	0.5	V
Base-Emitter Saturation Voltage		V _{BE} (sat)	I _C =6A, I _B =0.3A	—	0.9	1.4	V
Transition Frequency		f _T	V _{CE} =4V, I _C =1A	—	10	—	MHz
Collector Output Capacitance		C _{ob}	V _{CB} =10V, I _E =0, f=1MHz	—	350	—	pF
Switching Time	Turn-on Time	t _{on}	 20 μs INPUT I _{B1} I _{B2} OUTPUT I _C V _{CE} V _{CC} =30V I _{B1} = -I _{B2} = 0.3A, DUTY CYCLE ≤ 1%	—	0.5	—	μs
	Storage Time	t _{stg}		—	2.5		
	Fall Time	t _f		—	0.8	—	

Note : h_{FE} (1) Classification O : 70~140, Y : 120~240

