TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

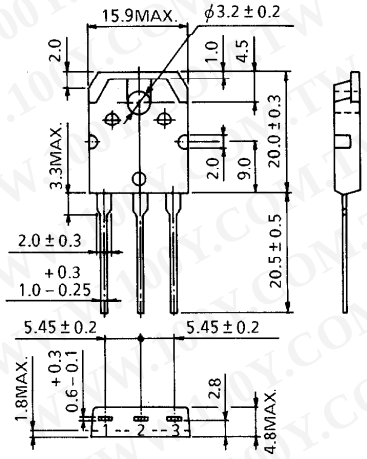
2SC4157

SWITCHING REGULATOR AND HIGH VOLTAGE SWITCHING APPLICATIONS

HIGH SPEED DC-DC CONVERTER APPLICATIONS

- High Speed Switching
  : $t_r = 0.5\mu s$ (Max.), $t_f = 0.5\mu s$ (Max.) ($I_C = 5A$)
- High Collector Breakdown Voltage : $V_{CEO} = 450V$

Unit in mm



1. BASE
2. COLLECTOR (HEAT SINK)
3. EMITTER

JEDEC	—
EIAJ	SC-65
TOSHIBA	2-16C1A

Weight : 4.7g (Typ.)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	600	V
Collector-Emitter Voltage		V_{CEO}	450	V
Emitter-Base Voltage		V_{EBO}	8	V
Collector Current	DC	I_C	10	A
	Pulse	I_{CP}	20	
Base Current		I_B	5	A
Collector Power Dissipation (Tc = 25°C)		P_C	100	W
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	−55~150	°C

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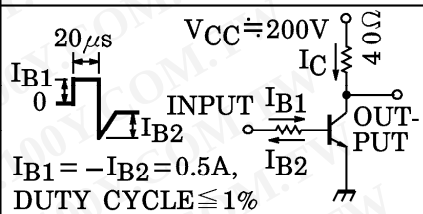
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB} = 500V, I_E = 0	—	—	100	μA
Emitter Cut-off Current		I_{EBO}	V_{EB} = 8V, I_C = 0	—	—	1	mA
Collector-Base Breakdown Voltage		$V_{(BR)CBO}$	I_C = 1mA, I_E = 0	600	—	—	V
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	I_C = 10mA, I_B = 0	450	—	—	V
DC Current Gain		h_{FE}	V_{CE} = 5V, I_C = 5A	15	—	—	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	I_C = 5A, I_B = 1A	—	—	1.0	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	I_C = 5A, I_B = 1A	—	—	2.0	V
Switching Time	Turn-on Time	t_r	 $I_{B1} = -I_{B2} = 0.5A$, DUTY CYCLE ≦ 1%	—	—	0.5	μs
	Storage Time	t_{stg}		—	—	2.5	
	Fall Time	t_f		—	—	0.5	