

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE (PCT PROCESS)

2SC5172

SWITCHING REGULATOR AND HIGH VOLTAGE SWITCHING APPLICATIONS

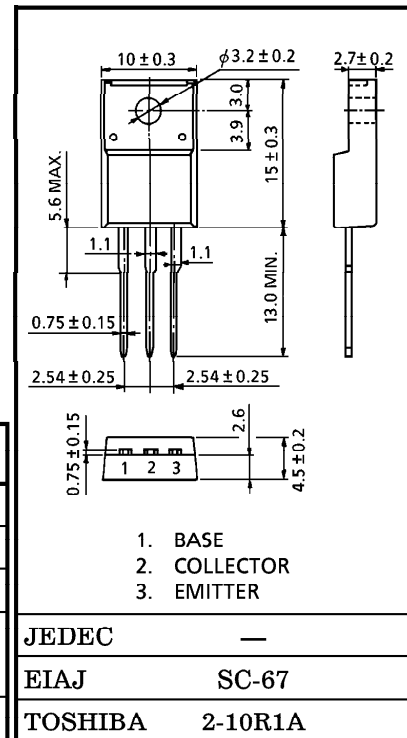
HIGH SPEED DC-DC CONVERTER APPLICATIONS

- Excellent Switching Times
: $t_r=0.5\mu s$ (Max.), $t_f=0.3\mu s$ (Max.) at $I_C=2A$
- High Collector Breakdown Voltage : $V_{CEO}=400V$

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	600	V
Collector-Emitter Voltage		V_{CEO}	400	V
Emitter-Base Voltage		V_{EBO}	7	V
Collector Current	DC	I_C	5	A
	Pulse	I_{CP}	7	
Base Current		I_B	2	A
Collector Power Dissipation	$T_a=25^\circ C$	P_C	2.0	W
	$T_c=25^\circ C$		25	
Junction Temperature		T_j	150	$^\circ C$
Storage Temperature Range		T_{stg}	-55~150	$^\circ C$

Unit in mm



Weight : 1.7g

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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		ICBO	V _{CB} = 500V, I _E = 0	—	—	20	μA
Emitter Cut-off Current		IEBO	V _{EB} = 7V, I _C = 0	—	—	100	nA
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	400	—	—	V
DC Current Gain		h _{FE} (1)	V _{CE} = 5V, I _C = 1mA	13	—	—	
		h _{FE} (2)	V _{CE} = 5V, I _C = 0.5A	20	—	65	
Collector-Emitter Saturation Voltage		V _{CE} (sat)	I _C = 2A, I _B = 0.25A	—	—	1.0	V
Base-Emitter Saturation Voltage		V _{BE} (sat)	I _C = 2A, I _B = 0.25A	—	—	1.3	V
Switching Time	Rise Time	t _r	<p>20 μs INPUT I_{B1} OUTPUT I_{B1} I_{B2} 100Ω I_{B1} = 0.25A I_{B2} = -0.5A V_{CC} = 200V DUTY CYCLE < 1%</p>	—	—	0.5	μs
	Storage Time	t _{stg}		—	—	2.0	
	Fall Time	t _f		—	—	0.3	

