

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

# 2SC5354

HIGH SPEED AND HIGH VOLTAGE SWITCHING APPLICATIONS

SWITCHING REGULATOR APPLICATIONS

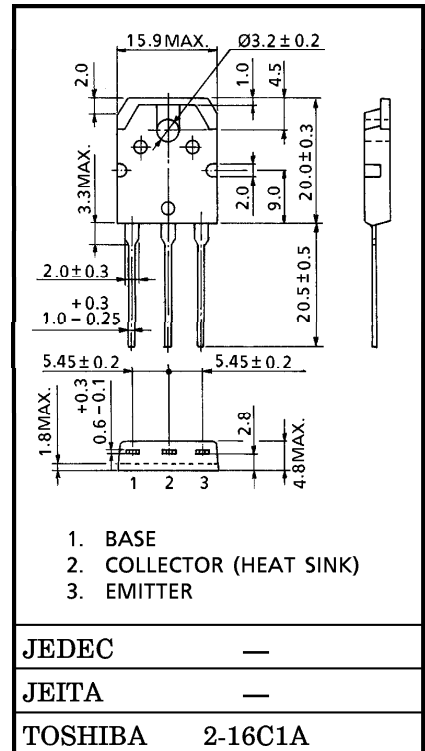
HIGH SPEED DC-DC CONVERTER APPLICATIONS

- Excellent Switching Times :  $t_r = 0.7 \mu s$  (Max.)  
 $t_f = 0.5 \mu s$  (Max.) ( $I_C = 2A$ )
- High Collector Breakdown Voltage :  $V_{CEO} = 800V$

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		$V_{CB0}$	900	V
Collector-Emitter Voltage		$V_{CE0}$	800	V
Emitter-Base Voltage		$V_{EB0}$	7	V
Collector Current	DC	$I_C$	5	A
	Pulse	$I_{CP}$	10	
Base Current		$I_B$	2	A
Collector Power Dissipation ( $T_c = 25^\circ C$ )		$P_C$	100	W
Junction Temperature		$T_j$	150	$^\circ C$
Storage Temperature Range		$T_{stg}$	-55~150	$^\circ C$

Unit in mm



Weight : 4.7g (Typ.)

ELECTRICAL CHARACTERISTICS (Tc = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		$I_{CBO}$	$V_{CB} = 800V, I_E = 0$	—	—	100	$\mu A$
Emitter Cut-off Current		$I_{EBO}$	$V_{EB} = 7V, I_C = 0$	—	—	1	mA
Collector-Base Breakdown Voltage		$V_{(BR)CBO}$	$I_C = 1mA, I_E = 0$	900	—	—	V
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C = 10mA, I_B = 0$	800	—	—	V
DC Current Gain		$h_{FE(1)}$	$V_{CE} = 5V, I_C = 10mA$	10	—	—	
		$h_{FE(2)}$	$V_{CE} = 5V, I_C = 0.5A$	15	—	—	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C = 2A, I_B = 0.4A$	—	—	1.0	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C = 2A, I_B = 0.4A$	—	—	1.3	V
Switching Time	Rise Time	$t_r$	<p> <math>20\mu s</math> <math>V_{CC} \doteq 400V</math>  <math>I_{B1}</math> <math>I_C = 4A</math>  <math>I_{B2}</math> <math>I_{B1}</math>  <math>I_{B2}</math> <math>I_{B1}</math>  <math>I_{B1} = 0.4A</math> INPUT <math>I_{B2}</math>  <math>I_{B2} = -0.8A</math>  DUTY CYCLE <math>\leq 1\%</math> </p>	—	—	0.7	$\mu s$
	Storage Time	$t_{stg}$		—	—	4.0	
	Fall Time	$t_f$		—	—	0.5	

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