

**TOSHIBA**

**2SC3420**

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

# 2SC3420

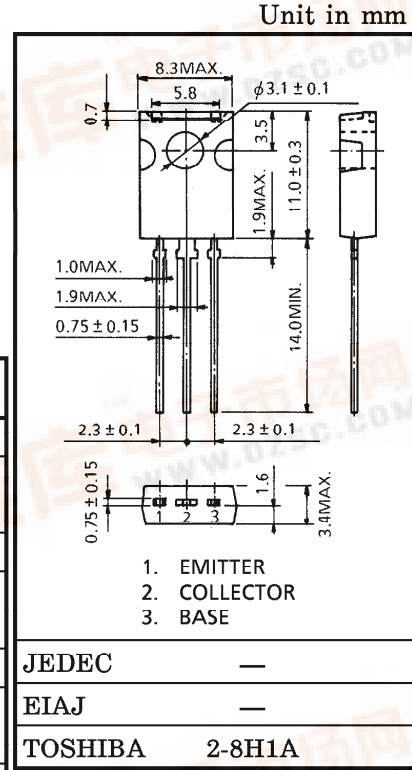
STOROBO FLASH APPLICATIONS.

MEDIUM POWER AMPLIFIER APPLICATIONS.

- High DC Current Gain :  $h_{FE} = 140 \sim 600$  ( $V_{CE} = 2V, I_C = 0.5A$ )  
 $h_{FE} = 70$  (Min.) ( $V_{CE} = 2V, I_C = 4A$ )
- Low Saturation Voltage :  $V_{CE(sat)} = 1.0V$  (Max.) ( $I_C = 4A, I_B = 0.1A$ )
- High Collector Power Dissipation :  $P_C = 10W$  ( $T_c = 25^\circ C$ ),  $P_C = 1.5W$  ( $T_a = 25^\circ C$ )

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		$V_{CBO}$	50	V
Collector-Emitter Voltage		$V_{CES}$	40	V
		$V_{CEO}$	20	
Emitter-Base Voltage		$V_{EBO}$	8	V
Collector Current	DC	$I_C$	5	A
	Pulse (Note 1)	$I_{CP}$	8	
Base Current		$I_B$	1	A
Collector Power Dissipation	$T_a = 25^\circ C$	$P_C$	1.5	W
	$T_c = 25^\circ C$		10	
Junction Temperature		$T_j$	150	$^\circ C$
Storage Temperature Range		$T_{stg}$	-55~150	$^\circ C$



Weight : 0.82g

Note 1 : Pulse Test : Pulse Width = 10ms (Max.)  
Duty Cycle = 30% (Max.)

ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ C$ )

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 40V, I_E = 0$	—	—	100	nA
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 8V, I_C = 0$	—	—	100	nA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10mA, I_B = 0$	20	—	—	V
DC Current Gain	$h_{FE(1)}$ (Note 2)	$V_{CE} = 2V, I_C = 0.5A$	140	—	600	
	$h_{FE(2)}$	$V_{CE} = 2V, I_C = 4A$	70	—	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 4A, I_B = 0.1A$	—	—	1.0	V
Base-Emitter Voltage	$V_{BE}$	$V_{CE} = 2V, I_C = 4A$	—	—	1.5	V
Transition Frequency	$f_T$	$V_{CE} = 2V, I_C = 0.5A$	—	100	—	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB} = 10V, I_E = 0, f = 1MHz$	—	40	—	pF

Note 2 :  $h_{FE(1)}$  Classification Y : 140~240, GR : 200~400, BL : 300~600

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