

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

# 2SC4781

STOROBO FLASH APPLICATIONS

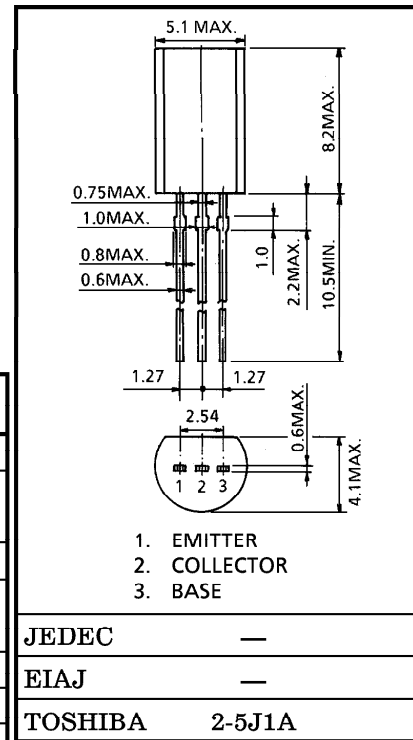
MEDIUM POWER AMPLIFIER APPLICATIONS

- High DC Current Gain and Excellent  $h_{FE}$  Linearity  
 :  $h_{FE}(1) = 200 \sim 600$  ( $V_{CE} = 2V, I_C = 1A$ )  
 :  $h_{FE}(2) = 300$  (Typ.) ( $V_{CE} = 2V, I_C = 4A$ )
- Low Saturation Voltage  
 :  $V_{CE(sat)} = 0.5V$  (Max.) ( $I_C = 4A, I_B = 80mA$ )

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		$V_{CBO}$	30	V
Collector-Emitter Voltage		$V_{CES}$	30	V
		$V_{CEO}$	10	
Emitter-Base Voltage		$V_{EBO}$	6	V
Collector Current	DC	$I_C$	4	A
	Pulsed	$I_{CP}$	8	
Base Current		$I_B$	0.8	A
Collector Power Dissipation		$P_C$	900	mW
Junction Temperature		$T_j$	150	$^\circ C$
Storage Temperature Range		$T_{stg}$	-55~150	$^\circ C$

Unit in mm



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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 30V, I_E = 0$	—	—	100	nA
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 6V, I_C = 0$	—	—	100	nA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10mA, I_B = 0$	10	—	—	V
DC Current Gain	$h_{FE}(1)$	$V_{CE} = 2V, I_C = 1A$	200	—	600	
	$h_{FE}(2)$	$V_{CE} = 2V, I_C = 4A$	140	300	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 4A, I_B = 80mA$	—	0.28	0.5	V
Base-Emitter Voltage	$V_{BE}$	$V_{CE} = 2V, I_C = 4A$	—	1.0	1.5	V
Transition Frequency	$f_T$	$V_{CE} = 2V, I_C = 0.5A$	—	170	—	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB} = 10V, I_E = 0, f = 1MHz$	—	50	—	pF

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