

TENTATIVE

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE

## 2SA1801

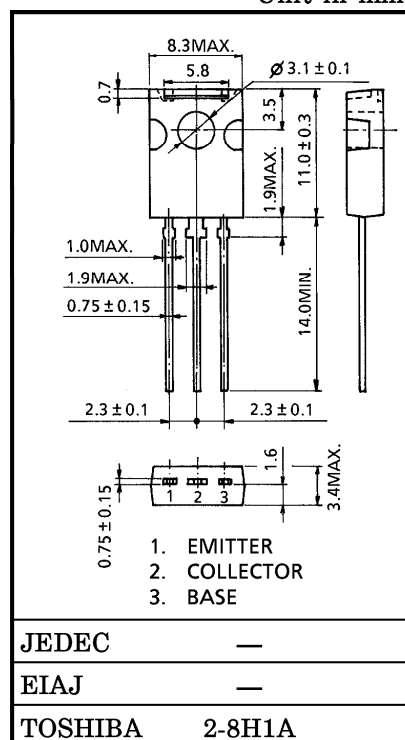
VIDEO OUTPUT STAGE IN HIGH RESOLUTION DISPLAY

Unit in mm

- High Transition Frequency :  $f_T = 600 \text{ MHz (Typ.)}$   
( $V_{CE} = 10 \text{ V}$ ,  
 $I_C = 50 \text{ mA}$ )
- Low Collector Output Capacitance :  $C_{ob} = 5.0 \text{ pF (Typ.)}$   
( $V_{CB} = -30 \text{ V}$ )

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		$V_{CBO}$	-120	V
Collector-Emitter Voltage		$V_{CEO}$	-120	V
Emitter-Base Voltage		$V_{EBO}$	-5	V
Collector Current	DC	$I_C$	-300	mA
	Pulse	$I_{CP}$	-500	
Base Current		$I_B$	-100	mA
Collector Power Dissipation	$T_a = 25^\circ\text{C}$	$P_C$	1.5	W
	$T_c = 25^\circ\text{C}$		8	
Junction Temperature		$T_j$	150	$^\circ\text{C}$
Storage Temperature Range		$T_{stg}$	-55~150	$^\circ\text{C}$

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

Weight : 0.82 g

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = -120 \text{ V}$ , $I_E = 0$	—	—	-1	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = -5 \text{ V}$ , $I_C = 0$	—	—	-10	$\mu\text{A}$
Collector-Base Breakdown Voltage	$V_{(BR) CBO}$	$I_C = -1 \text{ mA}$ , $I_B = 0$	-120	—	—	V
Collector-Emitter Breakdown Voltage	$V_{(BR) CEO}$	$I_C = -10 \text{ mA}$ , $I_B = 0$	-120	—	—	V
DC Current Gain	$h_{FE} (1)$	$V_{CE} = -10 \text{ V}$ , $I_C = -50 \text{ mA}$	40	—	240	
	$h_{FE} (2)$	$V_{CE} = -10 \text{ V}$ , $I_C = -200 \text{ mA}$	25	—	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -50 \text{ mA}$ , $I_B = -5 \text{ mA}$	—	—	-1.0	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -50 \text{ mA}$ , $I_B = -5 \text{ mA}$	—	—	-1.5	V
Transition Frequency	$f_T$	$V_{CE} = -10 \text{ V}$ , $I_C = -50 \text{ mA}$	—	600	—	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB} = -30 \text{ V}$ , $f = 1 \text{ MHz}$ , $I_E = 0$	—	4.0	5.0	pF

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