

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE (PCT PROCESS)

# 2SD1090

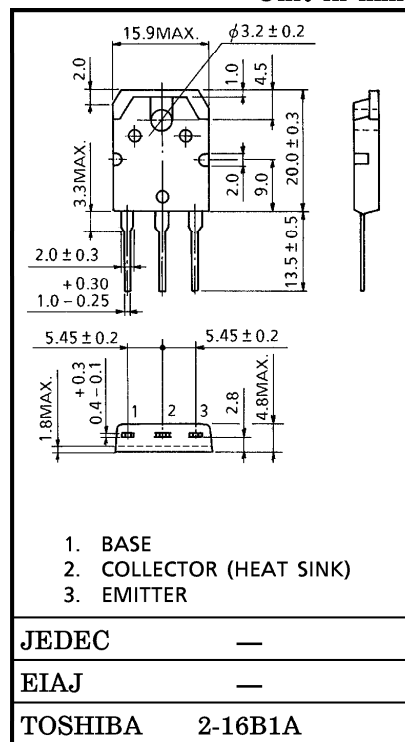
COLOR TV POWER REGULATOR APPLICATIONS

Unit in mm

- High Voltage :  $V_{CB0} = 180\text{ V}$
- High DC Current Gain :  $h_{FE} = 500$  (Min.)
- Large Collector Power Dissipation Capability :  $P_C = 80\text{ W}$

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CB0}$	200	V
Collector-Emitter Voltage	$V_{CEO}$	180	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	5	A
Base Current	$I_B$	2	A
Collector Power Dissipation ( $T_c = 25^\circ\text{C}$ )	$P_C$	80	W
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55~150	$^\circ\text{C}$



Weight : 4.6 g

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 200\text{ V}, I_E = 0$	—	—	100	$\mu\text{A}$
	$I_{CEO}$	$V_{CE} = 180\text{ V}, I_B = 0$	—	—	10	mA
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 5\text{ V}, I_C = 0$	—	—	100	$\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 50\text{ mA}, I_B = 0$	180	—	—	V
DC Current Gain	$h_{FE}$	$V_{CE} = 5\text{ V}, I_C = 1\text{ A}$	500	—	2000	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 1\text{ A}, I_B = 20\text{ mA}$	—	—	1.0	V
Base-Emitter Voltage	$V_{BE}$	$V_{CE} = 5\text{ V}, I_C = 1\text{ A}$	0.60	0.70	0.80	V

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