

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED MESA TYPE

2SC5446

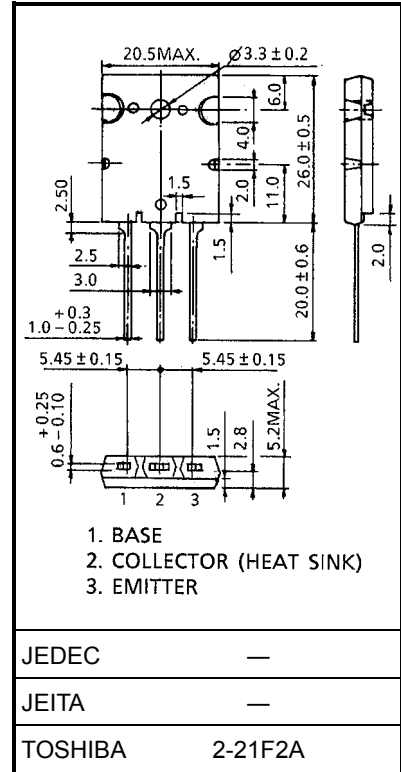
HORIZONTAL DEFLECTION OUTPUT FOR HIGH RESOLUTION

DISPLAY, COLOR TV

HIGH SPEED SWITCHING APPLICATIONS

- High Voltage : $V_{CBO} = 1700\text{ V}$
- Low Saturation Voltage : $V_{CE(sat)} = 3\text{ V (Max.)}$
- High Speed : $t_f(2) = 0.1\text{ }\mu\text{s (Typ.)}$

Unit: mm



Weight: 9.75 g (typ.)

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	1700	V
Collector-Emitter Voltage		V_{CEO}	600	V
Emitter-Base Voltage		V_{EBO}	5	V
Collector Current	DC	I_C	18	A
	Pulse	I_{CP}	36	
Base Current		I_B	9	A
Collector Power Dissipation		P_C	200	W
Junction Temperature		T_j	150	$^\circ\text{C}$
Storage Temperature Range		T_{stg}	-55~150	$^\circ\text{C}$

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

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN	TYP.	MAX	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB} = 1700\text{ V}, I_E = 0$	—	—	1	mA
Emitter Cut-off Current		I_{EBO}	$V_{EB} = 5\text{ V}, I_C = 0$	—	—	10	μA
Emitter-Base Breakdown Voltage		$V_{(BR)CEO}$	$I_C = 10\text{ mA}, I_B = 0$	600	—	—	V
DC Current Gain	$h_{FE(1)}$	$V_{CE} = 5\text{ V}, I_C = 2\text{ A}$	10	—	40	—	
	$h_{FE(2)}$	$V_{CE} = 5\text{ V}, I_C = 9\text{ A}$	6	—	13		
	$h_{FE(3)}$	$V_{CE} = 5\text{ V}, I_C = 14\text{ A}$	4	—	8		
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C = 14\text{ A}, I_B = 3.5\text{ A}$	—	—	3	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C = 14\text{ A}, I_B = 3.5\text{ A}$	—	1.0	1.5	V
Transition Frequency		f_T	$V_{CE} = 10\text{ V}, I_C = 0.1\text{ A}$	—	1.7	—	MHz
Collector Output Capacitance		C_{ob}	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	290	—	pF
Switching Time	Storage Time	$t_{stg(1)}$	$I_{CP} = 9\text{ A}, I_{B1}(\text{end}) = 1.5\text{ A}$	—	2.5	3.5	μs
	Fall Time	$t_f(1)$	$f_H = 64\text{ kHz}$	—	0.12	0.3	
	Storage Time	$t_{stg(2)}$	$I_{CP} = 7\text{ A}, I_{B1}(\text{end}) = 1.25\text{ A}$	—	2.1	2.3	μs
	Fall Time	$t_f(2)$	$f_H = 100\text{ kHz}$	—	0.10	0.15	

