

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED MESA TYPE

# 2SC5422

HORIZONTAL DEFLECTION OUTPUT FOR MEDIUM RESOLUTION DISPLAY, COLOR TV FOR MULTI-MEDIA & HDTV

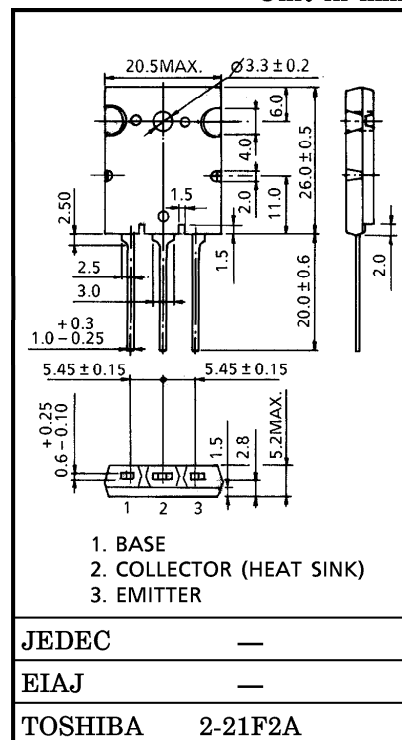
HIGH SPEED SWITCHING APPLICATIONS

- High Voltage :  $V_{CBO} = 1700\text{ V}$
- Low Saturation Voltage :  $V_{CE(sat)} = 3\text{ V (Max.)}$
- High Speed :  $t_f = 0.15\ \mu\text{s (Typ.)}$

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

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	$I_C$	15
	Pulse	$I_{CP}$	30
Base Current	$I_B$	7.5	A
Collector Power Dissipation ( $T_c = 25^\circ\text{C}$ )	$P_C$	200	W
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55~150	$^\circ\text{C}$

Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	2-21F2A

Weight : 9.75 g (Typ.)

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## ELECTRICAL CHARACTERISTICS (Ta = 25°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	$I_{EBO}$	$V_{EB} = 5\text{ V}, I_C = 0$	—	—	100	$\mu\text{A}$
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	
	$h_{FE(2)}$	$V_{CE} = 5\text{ V}, I_C = 11\text{ A}$	4.5	—	8.5	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 11\text{ A}, I_B = 2.75\text{ A}$	—	—	3	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 11\text{ A}, I_B = 2.75\text{ A}$	—	1.0	1.5	V
Transition Frequency	$f_T$	$V_{CE} = 10\text{ V}, I_C = 0.1\text{ A}$	—	2	—	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	220	—	pF
Switching Time	Storage Time	$I_{CP} = 8\text{ A}, I_{B1}(\text{end}) = 1.4\text{ A}$ $f_H = 64\text{ kHz}$	—	2.5	3.5	$\mu\text{s}$
	Fall Time		—	0.15	0.3	

