

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED MESA TYPE

2SC5129

HORIZONTAL DEFLECTION OUTPUT FOR HIGH RESOLUTION
DISPLAY, COLOR TV

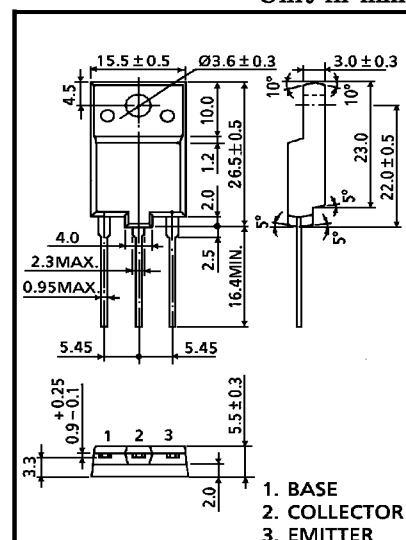
HIGH SPEED SWITCHING APPLICATIONS

- High Speed : $t_f = 0.15 \mu s$ (Typ.)
- High Voltage : $V_{CBO} = 1500 V$
- Low Saturation Voltage : $V_{CE(sat)} = 3 V$ (Max.)
- Collector Metal (Fin) is Fully Covered with Mold Resin

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	1500	V
Collector-Emitter Voltage	V_{CEO}	600	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	DC I_C	10	A
	Pulse I_{CP}	20	
Base Current	I_B	5	A
Collector Power Dissipation ($T_c = 25^\circ C$)	P_C	50	W
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature Range	T_{stg}	$-55 \sim 150$	$^\circ C$

Unit in mm



JEDEC

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EIAJ

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TOSHIBA 2-16E3A

Weight : 5.5 g (Typ.)

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = 1500 V, I_E = 0$	—	—	1	mA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 5 V, I_C = 0$	—	—	10	μA
Emitter-Base Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10 mA, I_B = 0$	600	—	—	V
DC Current Gain	$h_{FE(1)}$	$V_{CE} = 5 V, I_C = 1 A$	10	—	30	—
	$h_{FE(2)}$	$V_{CE} = 5 V, I_C = 6 A$	4	—	8	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 6 A, I_B = 1.5 A$	—	—	3	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 6 A, I_B = 1.5 A$	—	1.0	1.4	V
Transition Frequency	f_T	$V_{CE} = 10 V, I_C = 0.1 A$	—	1.7	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = 10 V, I_E = 0, f = 1 MHz$	—	135	—	pF
Switching Time (Fig.1)	Storage Time t_{stg}	$I_{CP} = 5 A, I_{B1}(end) = 1 A$	—	2.5	4.0	μs
	Fall Time t_f	$f_H = 64 kHz$	—	0.15	0.3	

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1999-09-02 1/4

INPUT

7.8 μ s

15V

15.6 μ s

0

50 Ω

2SK528

2.4 k Ω

2000 pF

270 Ω

0.022 μ F

VDD

(Note) 1.0 μ H

4.7 μ F

100 Ω

5 Ω

27 Ω

I_B

T.U.T.

I_C

C_y

3.3 μ F

L_y

10 mH

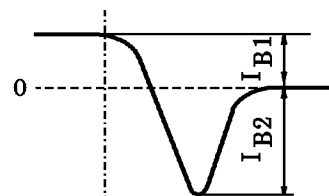
VCC

V_{out}

L_y = 130 μ H

C_y = 6800 pF

BASE CURRENT


$$dI_B/dt = \frac{I_{B1} + I_{B2}}{t_{stg}} \text{ (A/}\mu\text{s)}$$

