

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

# 2SD1410A

IGNITER APPLICATIONS

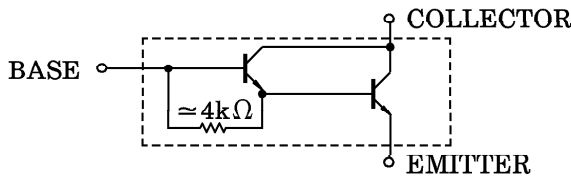
HIGH VOLTAGE SWITCHING APPLICATIONS

- High DC Current Gain :  $h_{FE} = 2000$  (Min.) ( $V_{CE} = 2V, I_C = 2A$ )

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	300	V
Collector-Emitter Voltage	$V_{CEO}$	250	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	6	A
Base Current	$I_B$	1	A
Collector Power	$P_C$	$T_a = 25^\circ C$	W
Dissipation ( $T_c = 25^\circ C$ )		$T_c = 25^\circ C$	
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature Range	$T_{stg}$	-55~150	$^\circ C$

EQUIVALENT CIRCUIT



INDUSTRIAL APPLICATIONS

Unit in mm

JEDEC	—
EIAJ	—
TOSHIBA	2-10R1A

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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		$I_{CBO}$	$V_{CB} = 300V, I_E = 0$	—	—	0.5	mA
Emitter Cut-off Current		$I_{EBO}$	$V_{EB} = 5V, I_C = 0$	—	—	0.5	mA
Collector-Emitter Breakdown Voltage		$V_{(BR) CEO}$	$I_C = 0.5A, L = 40mH$	250	—	—	V
DC Current Gain		$h_{FE(1)}$	$V_{CE} = 2V, I_C = 2A$	2000	—	—	
		$h_{FE(2)}$	$V_{CE} = 2V, I_C = 4A$	200	—	—	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C = 4A, I_B = 0.04A$	—	—	2.0	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C = 4A, I_B = 0.04A$	—	—	2.5	V
Collector Output Capacitance		$C_{ob}$	$V_{CB} = 50V, I_E = 0, f = 1MHz$	—	30	—	pF
Switching Time	Turn-on Time	$t_{on}$	<p> <math>I_{B1} = -I_{B2} = 0.04A, V_{CC} = 100V</math>                      DUTY CYCLE <math>\leq 1\%</math> </p>	—	0.2	—	$\mu s$
	Storage Time	$t_{stg}$		—	1.0	—	
	Fall Time	$t_f$		—	—	0.2	

