

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

2SD1410A

IGNITER APPLICATIONS

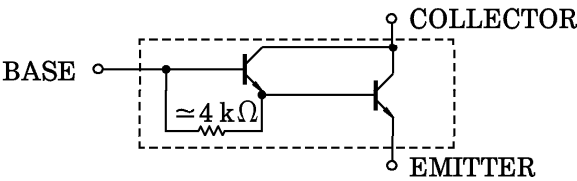
HIGH VOLTAGE SWITCHING APPLICATIONS

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

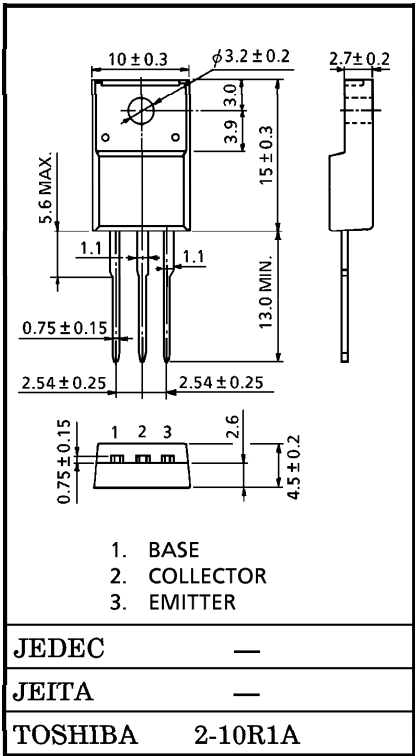
MAXIMUM RATINGS ($T_c = 25^\circ\text{C}$)

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 Dissipation ($T_c = 25^\circ\text{C}$)	$T_a = 25^\circ\text{C}$	P_C	2.0	W
	$T_c = 25^\circ\text{C}$		25	
Junction Temperature		T_j	150	$^\circ\text{C}$
Storage Temperature Range		T_{stg}	$-55\sim 150$	$^\circ\text{C}$

EQUIVALENT CIRCUIT

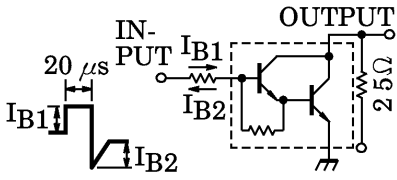


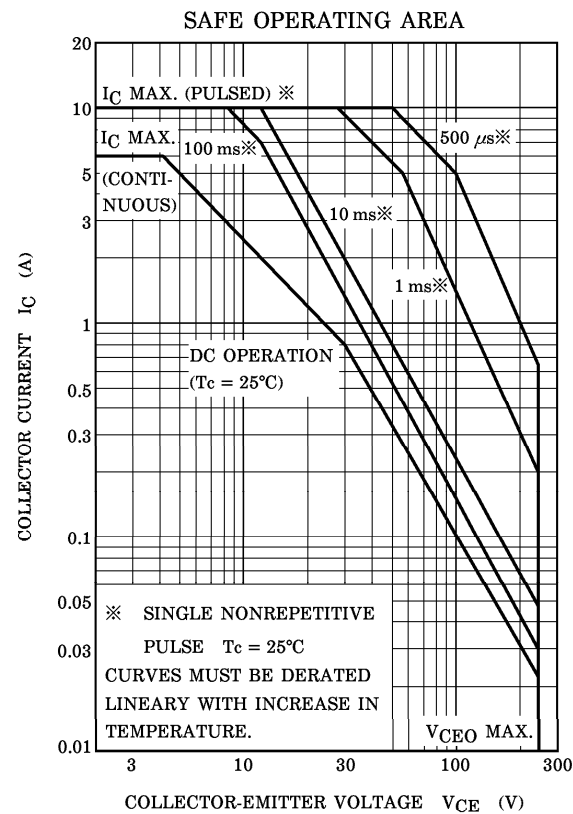
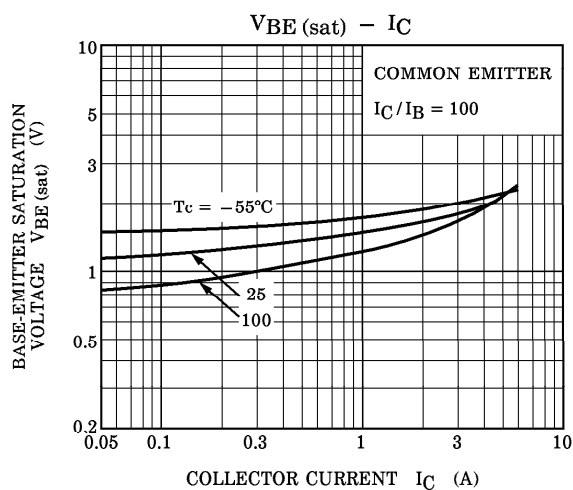
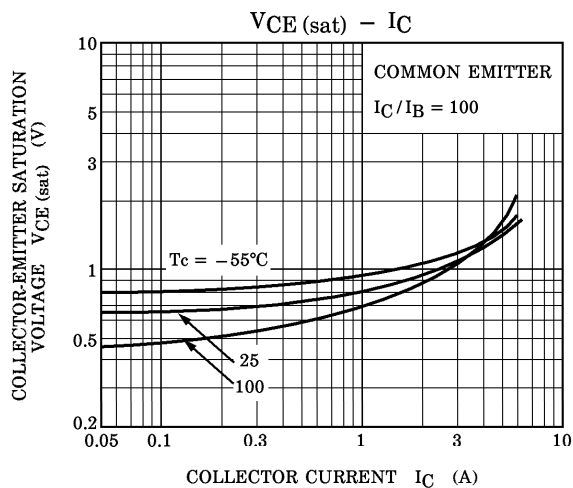
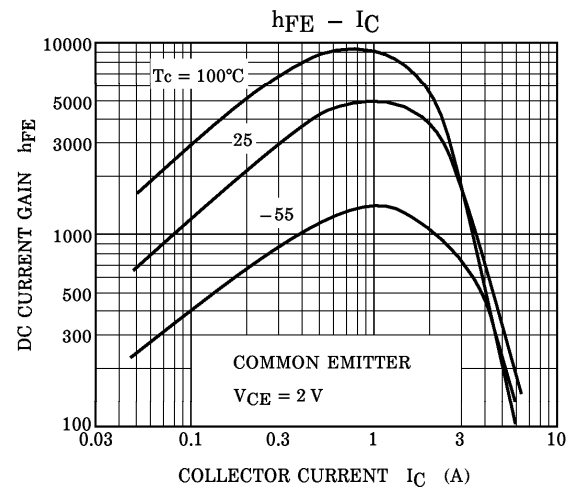
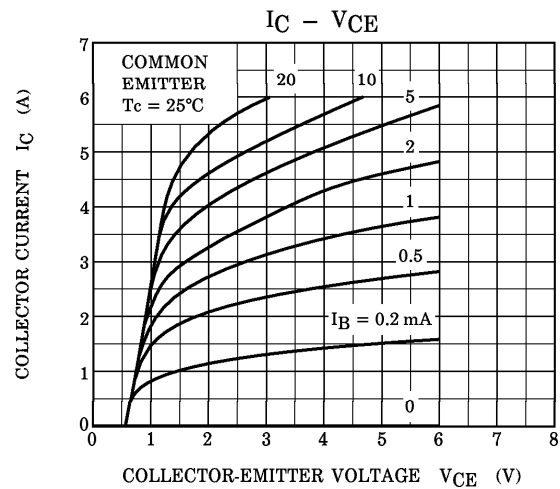
Unit in mm



Weight : 1.7 g (Typ.)

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

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB} = 300\text{ V}, I_E = 0$	—	—	0.5	mA
Emitter Cut-off Current		I_{EBO}	$V_{EB} = 5\text{ V}, I_C = 0$	—	—	0.5	mA
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C = 0.5\text{ A}, L = 40\text{ mH}$	250	—	—	V
DC Current Gain		$h_{FE}(1)$	$V_{CE} = 2\text{ V}, I_C = 2\text{ A}$	2000	—	—	
		$h_{FE}(2)$	$V_{CE} = 2\text{ V}, I_C = 4\text{ A}$	200	—	—	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C = 4\text{ A}, I_B = 0.04\text{ A}$	—	—	2.0	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C = 4\text{ A}, I_B = 0.04\text{ A}$	—	—	2.5	V
Collector Output Capacitance		C_{ob}	$V_{CB} = 50\text{ V}, I_E = 0,$ $f = 1\text{ MHz}$	—	30	—	pF
Switching Time	Turn-on Time	t_{on}	 $I_{B1} = -I_{B2} = 0.04\text{ A}, V_{CC} = 100\text{ V}$ DUTY CYCLE $\leq 1\%$	—	1	—	μs
	Storage Time	t_{stg}		—	8	—	
	Fall Time	t_f		—	5	—	



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