TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

2SD1410A

IGNITER APPLICATIONS

HIGH VOLTAGE SWITCHING APPLICATIONS

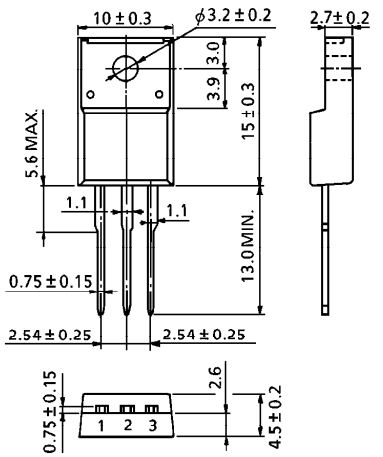
INDUSTRIAL APPLICATIONS

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

MAXIMUM RATINGS (Ta = 25°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 (Tc = 25°C)	Ta = 25°C	P_C	2.0	W
	Tc = 25°C		25	
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	−55~150	°C

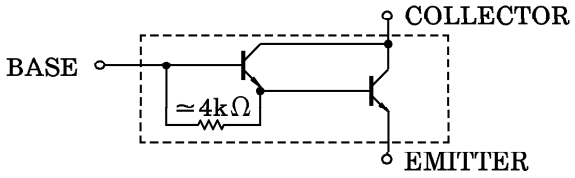
Unit in mm



1. BASE
2. COLLECTOR
3. EMITTER

JEDEC	—
EIAJ	—
TOSHIBA	2-10R1A

EQUIVALENT CIRCUIT



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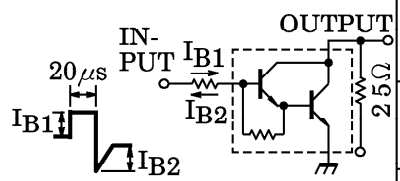
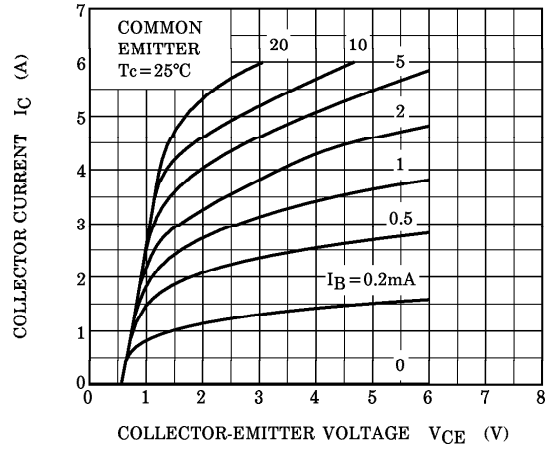
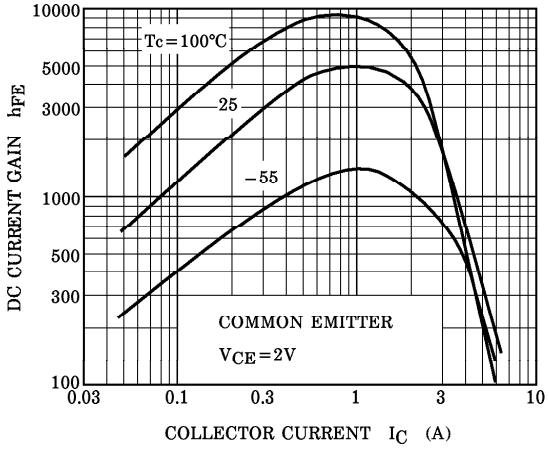
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

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}		—	0.2	—	μs
	Storage Time	t_{stg}		—	1.0	—	
	Fall Time	t_f	$I_{B1} = -I_{B2} = 0.04A$, V_{CC} = 100V DUTY CYCLE ≦ 1%	—	0.2	—	

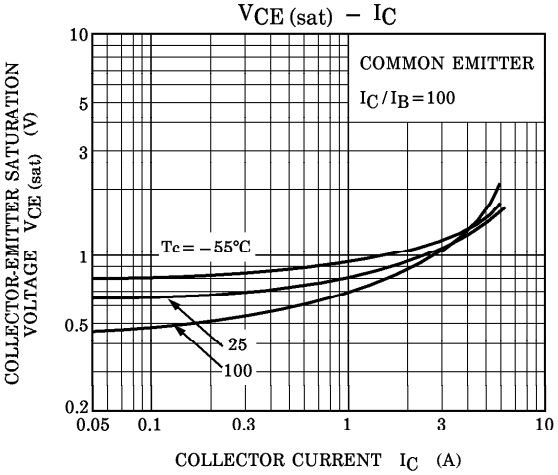
I_C – V_{CE}



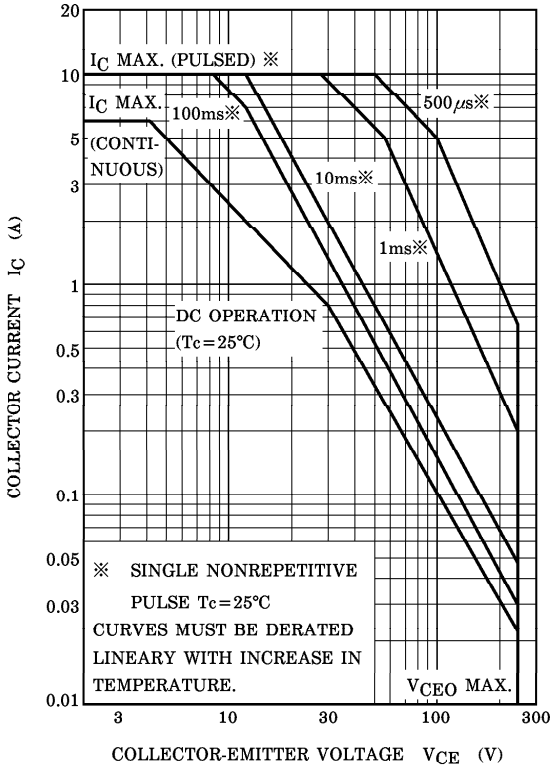
h_{FE} – I_C



$V_{CE\,(sat)}$ – I_C



SAFE OPERATING AREA



$V_{BE\,(sat)}$ – I_C