

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

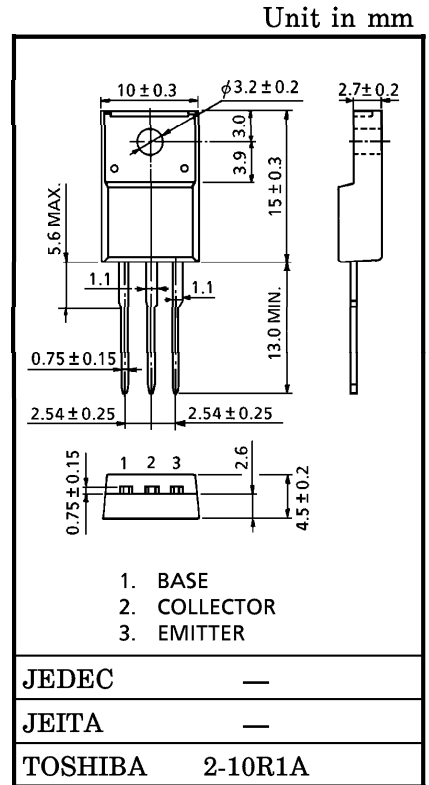
2SD2075A

HIGH CURRENT SWITCHING APPLICATIONS
LAMP, SOLENOID DRIVE APPLICATIONS

- High DC Current Gain : $h_{FE} = 500 \sim 1500$ ($I_C = 1A$)
- Low Collector Saturation Voltage : $V_{CE(sat)} = 0.3V$ (Max.) ($I_C = 5A$)

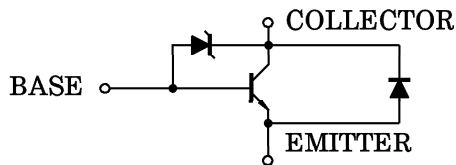
MAXIMUM RATINGS ($T_c = 25^\circ C$)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	60 ± 10	V
Collector-Emitter Voltage		V_{CEO}	60 ± 10	V
Emitter-Base Voltage		V_{EBO}	7	V
Collector Current	DC	I_C	10	A
	Pulse	I_{CP}	15	
Base Current		I_B	2	A
Collector Power Dissipation	$T_a = 25^\circ C$	PC	2.0	W
	$T_c = 25^\circ C$		30	
Junction Temperature		T_j	150	$^\circ C$
Storage Temperature Range		T_{stg}	$-55 \sim 150$	$^\circ C$



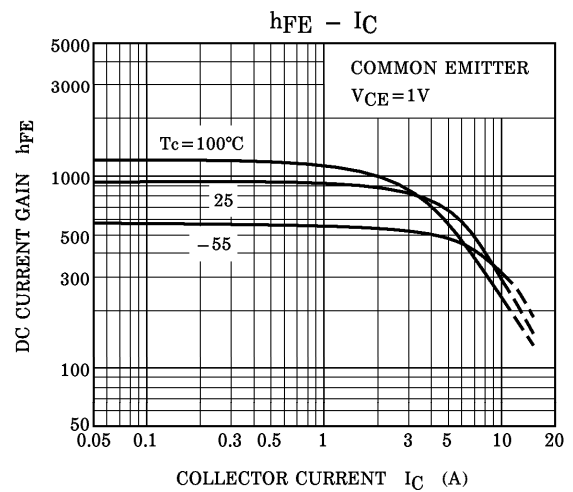
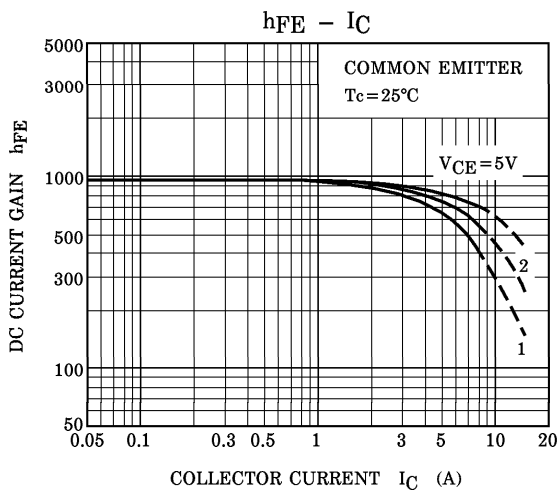
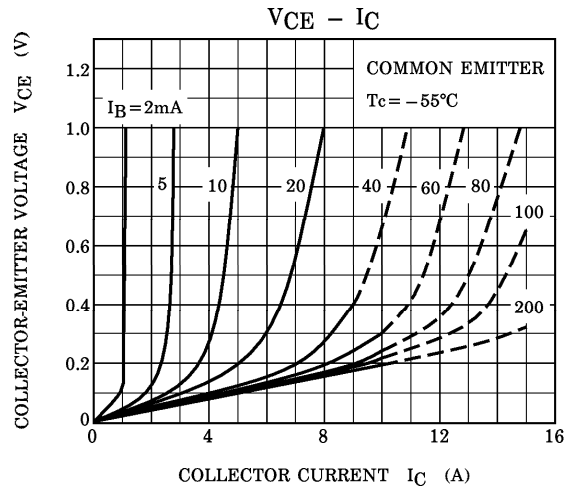
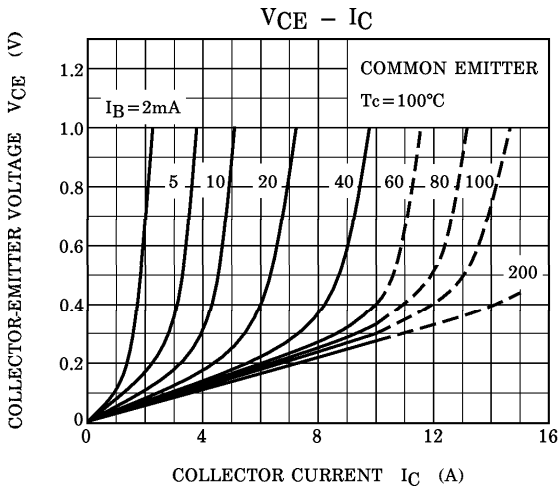
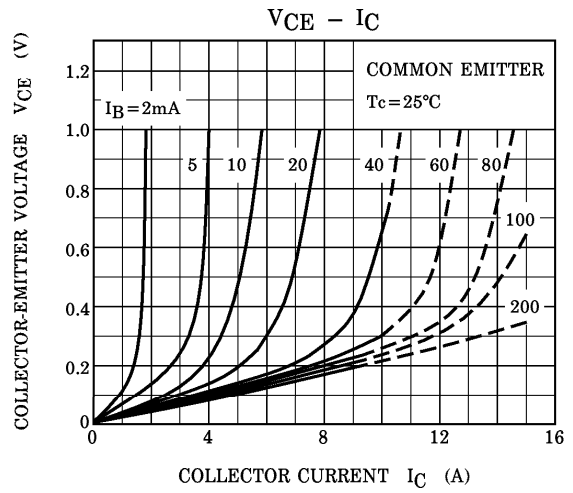
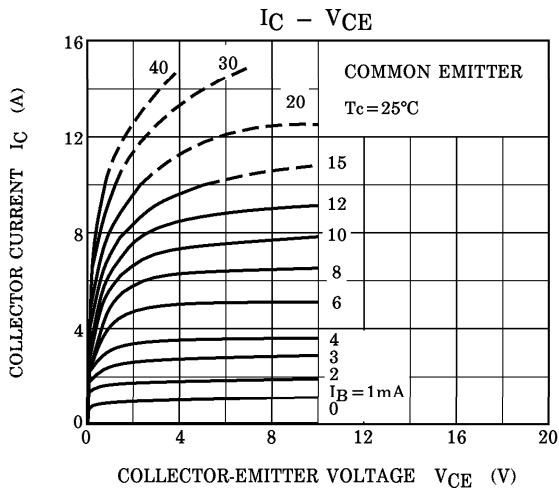
Weight : 1.7 g (Typ.)

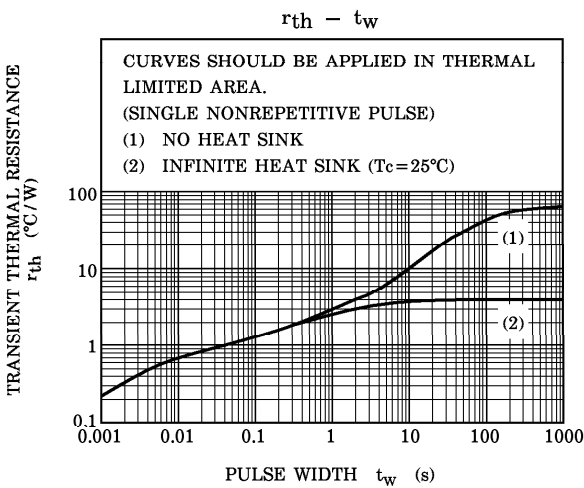
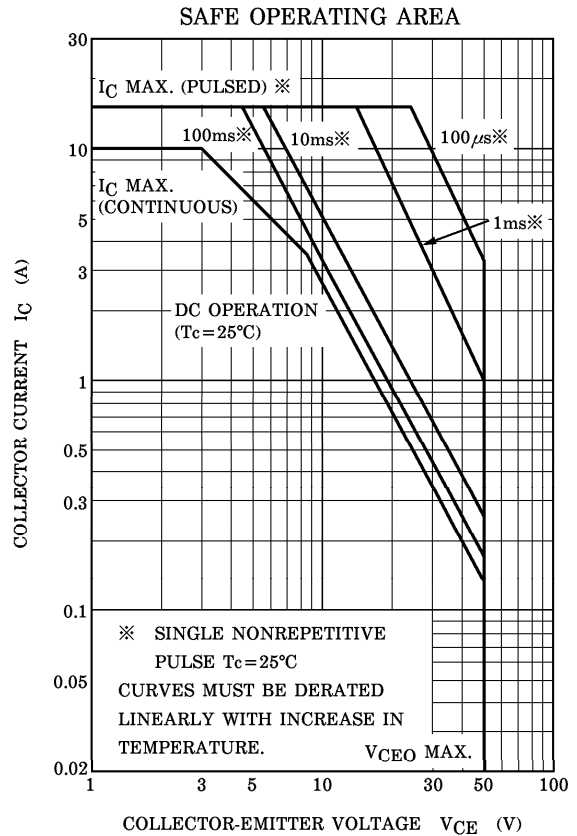
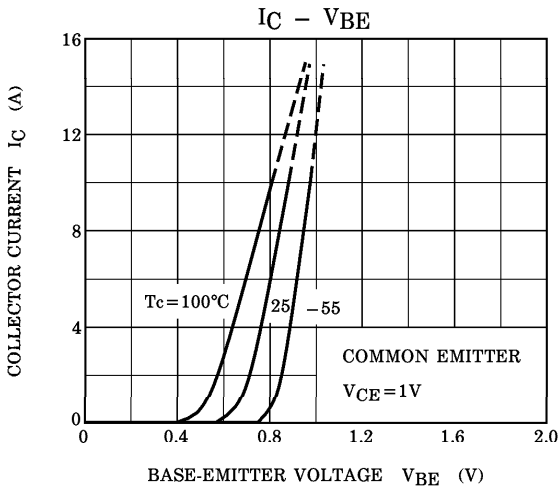
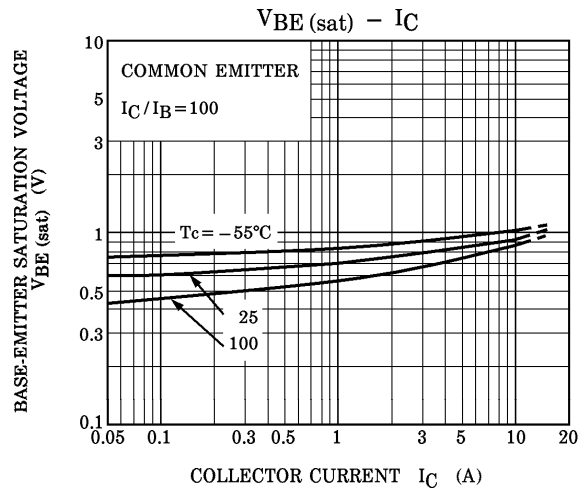
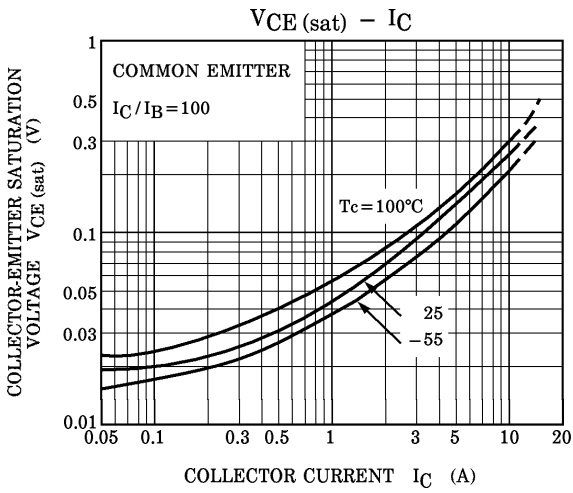
EQUIVALENT CIRCUIT



ELECTRICAL CHARACTERISTICS (T_c = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT				
Collector Cut-off Current	I _{CBO}	V _{CB} = 45V, I _E = 0	—	—	10	μA				
Emitter Cut-off Current	I _{EBO}	V _{EB} = 7V, I _C = 0	—	—	10	μA				
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	I _C = 50mA, I _B = 0	50	60	70	V				
DC Current Gain	h _{FE} (1)	V _{CE} = 1V, I _C = 1A	500	—	1500					
	h _{FE} (2)	V _{CE} = 1V, I _C = 5A	150	—	—					
Collector-Emitter Saturation Voltage	V _{CE(sat)}	I _C = 5A, I _B = 0.05A	—	—	0.3	V				
Base-Emitter Saturation Voltage	V _{BE(sat)}	I _C = 5A, I _B = 0.05A	—	—	1.2	V				
Collector-Emitter Forward Voltage	V _{ECF}	I _C = 5A, I _B = 0	—	—	2.0	V				
Transition Frequency	f _T	V _{CE} = 5V, I _C = 1A	—	90	—	MHz				
Collector Output Capacitance	C _{ob}	V _{CB} = 10V, I _E = 0, f = 1MHz	—	140	—	pF				
Switching Time	Turn-on Time	t _{on}					—	0.5	—	μs
	Storage Time	t _{stg}					—	2.0	—	
	Fall Time	t _f					I _{B1} = -I _{B2} = 0.05A, DUTY CYCLE ≤ 1%	—	0.6	





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