

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

2SD633, 2SD635

HIGH POWER SWITCHING APPLICATIONS

HAMMER DRIVE, PULSE MOTOR DRIVE APPLICATIONS

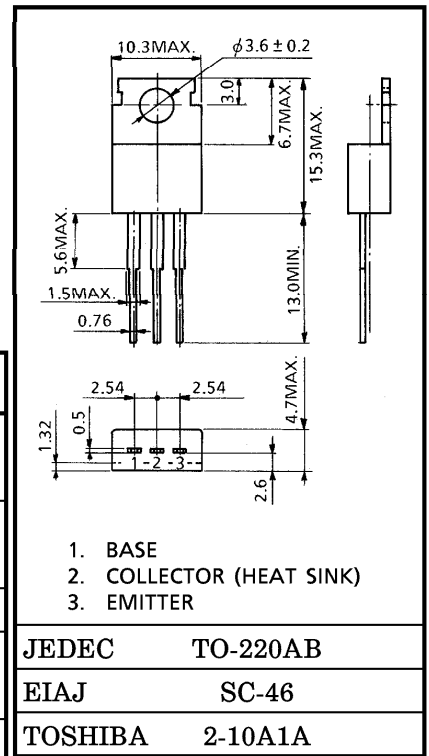
INDUSTRIAL APPLICATIONS

Unit in mm

- High DC Current Gain : $h_{FE} = 2000$ (Min.)
- Low Saturation Voltage : $V_{CE(sat)} = 1.5V$ (Max.)
- Complementary to 2SB673 and 2SB675.

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

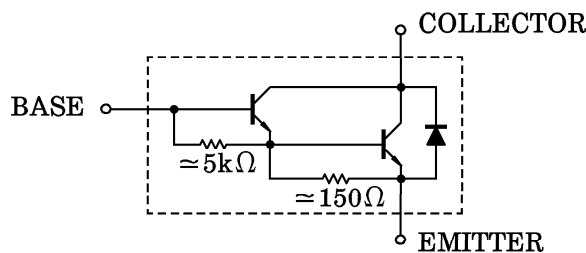
CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage	2SD633	V_{CBO}	100	V
	2SD635		60	
Collector-Emitter Voltage	2SD633	V_{CEO}	100	V
	2SD635		60	
Emitter-Base Voltage		V_{EBO}	5	V
Collector Current	I_C		7	A
	I_{CP}			
Base Current		I_B	0.7	A
Collector Power Dissipation ($T_c = 25^\circ C$)		P_C	40	W
Junction Temperature		T_j	150	$^\circ C$
Storage Temperature Range		T_{stg}	-55~150	$^\circ C$



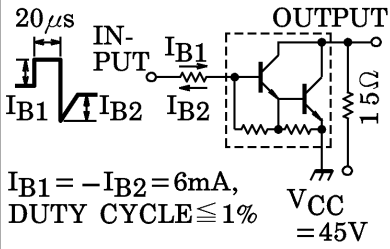
Weight : 1.9g (Typ.)

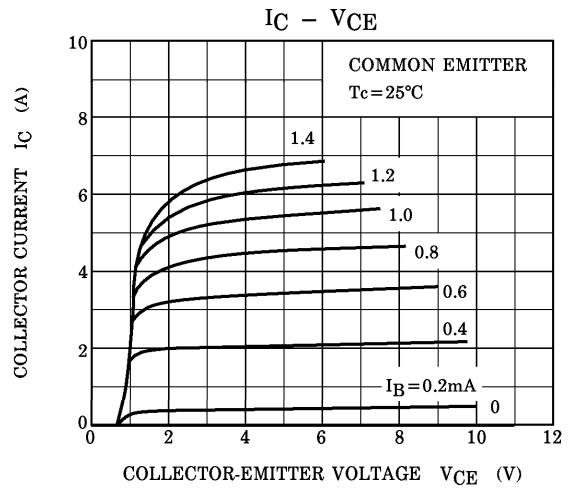
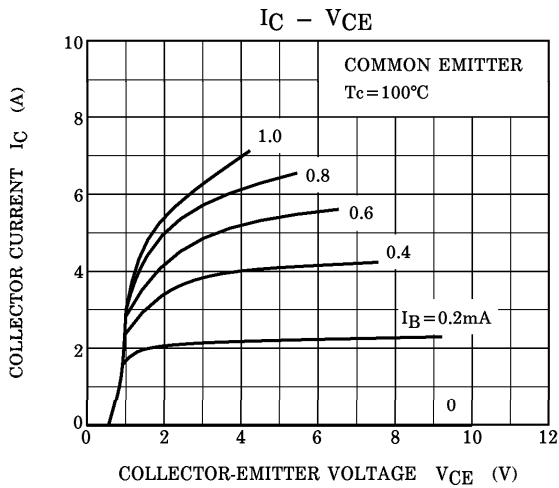
Mounting kit No. AC75

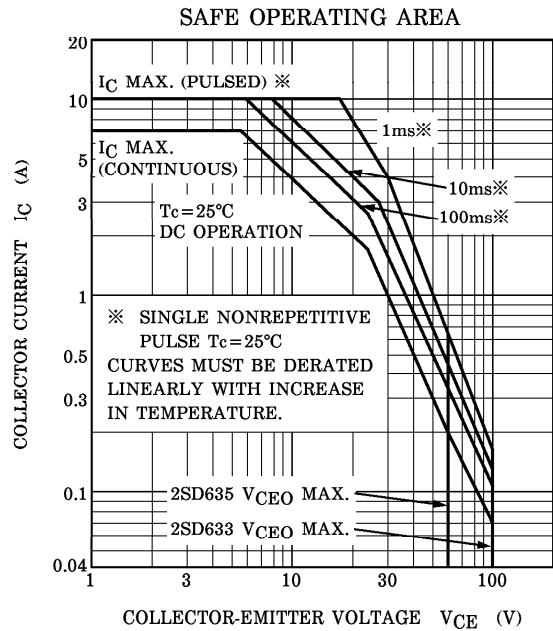
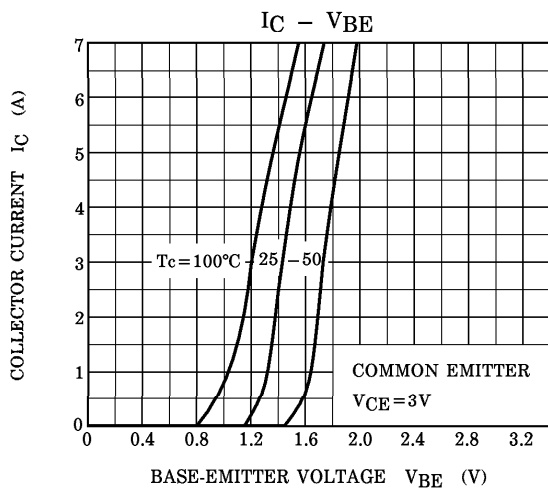
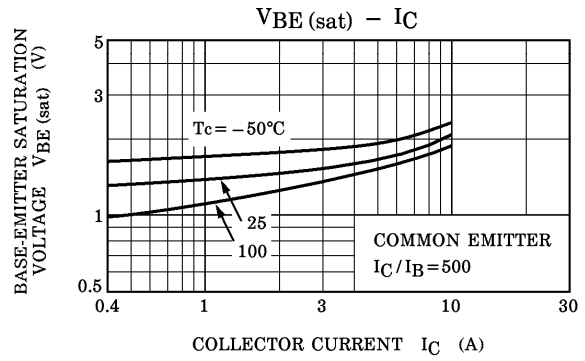
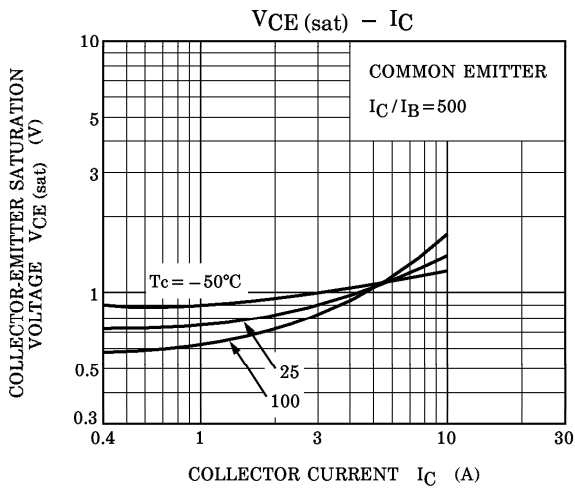
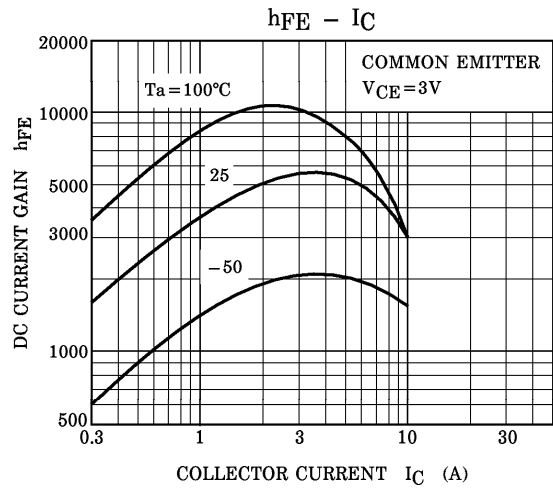
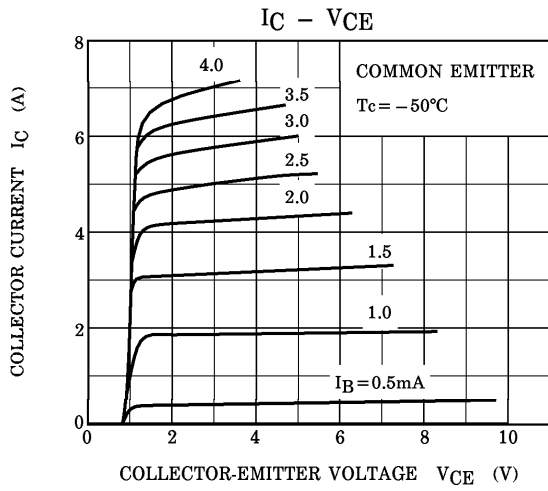
EQUIVALENT CIRCUIT



ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	2SD633	ICBO	V _{CB} = 100V, I _E = 0	—	—	100	μA
	2SD635		V _{CB} = 60V, I _E = 0	—	—	100	
Emitter Cut-off Current		I _{EBO}	V _{EB} = 5V, I _C = 0	—	—	3.0	mA
Collector-Emitter Breakdown Voltage	2SD633	V _(BR) CEO	I _C = 50mA, I _B = 0	100	—	—	V
	2SD635			60	—	—	
DC Current Gain	h _{FE} (1)		V _{CE} = 3V, I _C = 3A	2000	—	15000	
	h _{FE} (2)		V _{CE} = 3V, I _C = 7A	1000	—	—	
Collector-Emitter Saturation Voltage	V _{CE} (sat) (1)		I _C = 3A, I _B = 6mA	—	0.9	1.5	V
	V _{CE} (sat) (2)		I _C = 7A, I _B = 14mA	—	1.2	2.0	
Base-Emitter Saturation Voltage		V _{BE} (sat)	I _C = 3A, I _B = 6mA	—	1.5	2.5	V
Switching Time	Turn-on Time	t _{on}	 <p>20 μs IN-PUT</p> <p>OUTPUT</p> <p>15Ω</p> <p>V_{CC} = 45V</p>	—	0.8	—	μs
	Storage Time	t _{stg}		—	3.0	—	
	Fall Time	t _f		I _{B1} = -I _{B2} = 6mA, DUTY CYCLE ≤ 1%	—	2.5	





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