

TOSHIBA

2SD1314

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE (DARLINGTON)

2SD1314

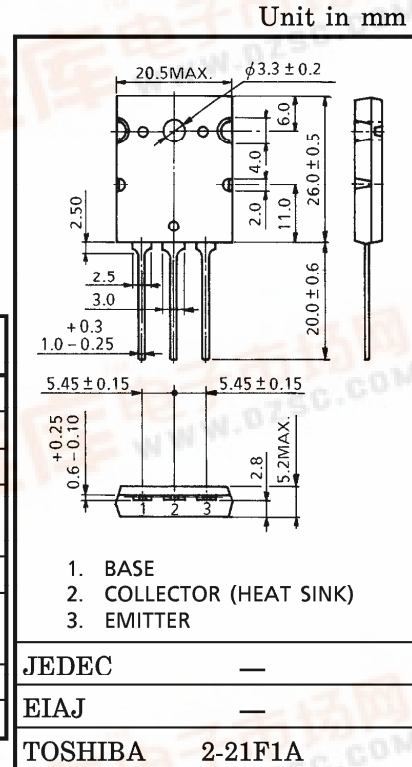
HIGH POWER SWITCHING APPLICATIONS.

MOTOR CONTROL APPLICATIONS.

- High DC Current Gain : $h_{FE}=100$ (Min.)
- Low Saturation Voltage : $V_{CE(sat)}=2V$ (Max.)
- High Speed : $t_f=3\mu s$ (Max.)

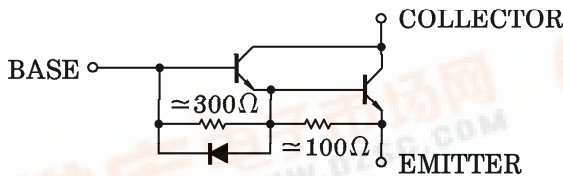
MAXIMUM RATINGS ($T_a = 25^\circ C$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	600	V
Collector-Emitter Voltage	V_{CEO}	450	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	DC	15	A
	Pulse	30	
Base Current	I_B	1.0	A
Collector Power Dissipation ($T_c = 25^\circ C$)	P_C	150	W
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55~150	$^\circ C$



Weight : 9.75g (Typ.)

EQUIVALENT CIRCUIT

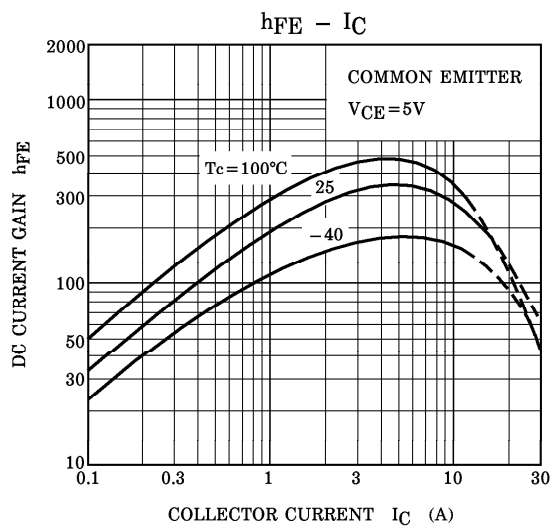
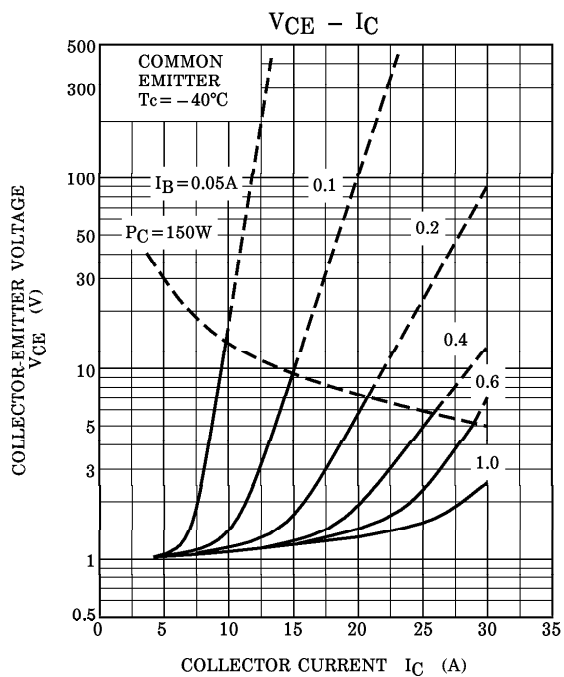
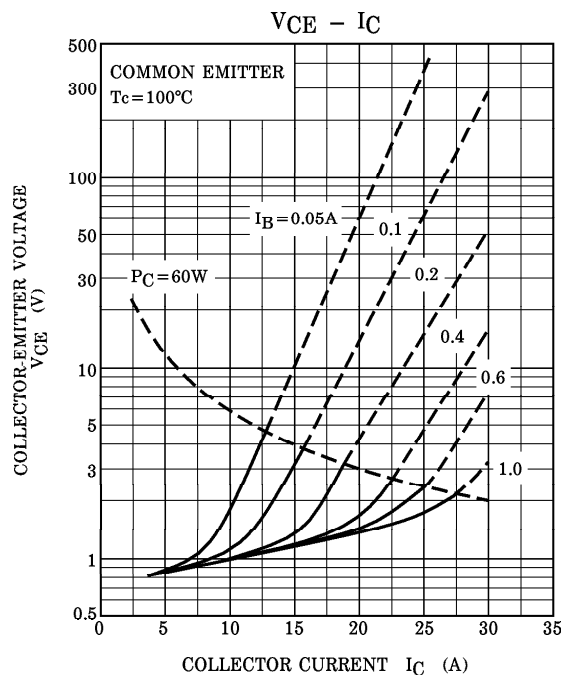
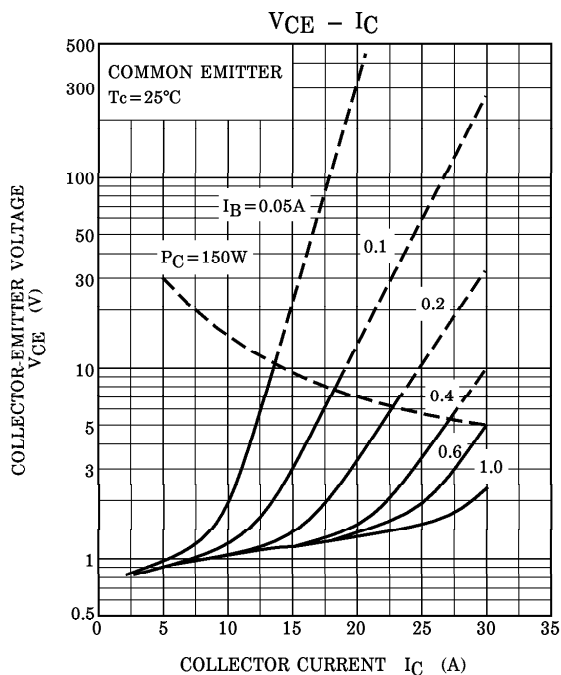


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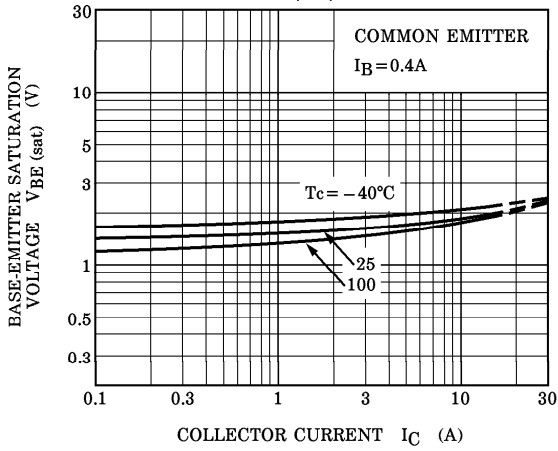
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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

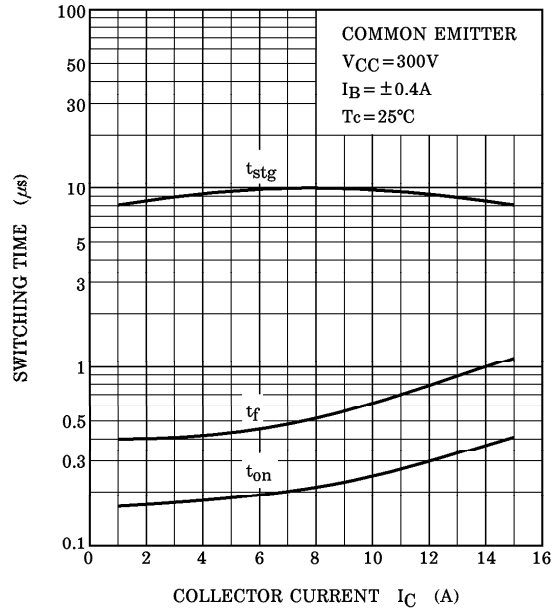
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		ICBO	V _{CB} = 600V, I _E = 0	—	—	1.0	mA
Emitter Cut-off Current		IEBO	V _{EB} = 6V, I _C = 0	—	—	200	mA
Collector-Emitter Sustaining Voltage		V _{CEO (SUS)}	I _C = 0.5A, L = 40mH	450	—	—	V
DC Current Gain		h _{FE}	V _{CE} = 5V, I _C = 15A	100	—	—	
Collector-Emitter Saturation Voltage		V _{CE (sat)}	I _C = 15A, I _B = 0.4A	—	—	2.0	V
Base-Emitter Saturation Voltage		V _{BE (sat)}		—	—	2.5	V
Collector Output Capacitance		C _{ob}	V _{CB} = 50V, I _E = 0, f = 1MHz	—	150	—	pF
Switching Time	Turn-on Time	t _{on}	<p> $I_{B1} = -I_{B2} = 0.4A$, DUTY CYCLE = 0.5% </p>	—	—	1.0	µs
	Storage Time	t _{stg}		—	—	12	
	Fall Time	t _f		—	—	3.0	



V_{BE}(sat) - I_C



SWITCHING TIME - I_C



SAFE OPERATING AREA

