

TOSHIBA Transistor Silicon NPN Triple Diffused Type (Darlington power transistor)

2SD1525

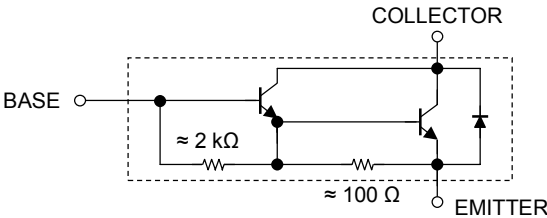
High Current Switching Applications

- High collector current: $I_C = 30\text{ A}$
- High DC current gain: $h_{FE} = 1000\text{ (min)}$ ($V_{CE} = 5\text{ V}$, $I_C = 20\text{ A}$)
- Monolithic construction with built-in base-emitter shunt resistor.

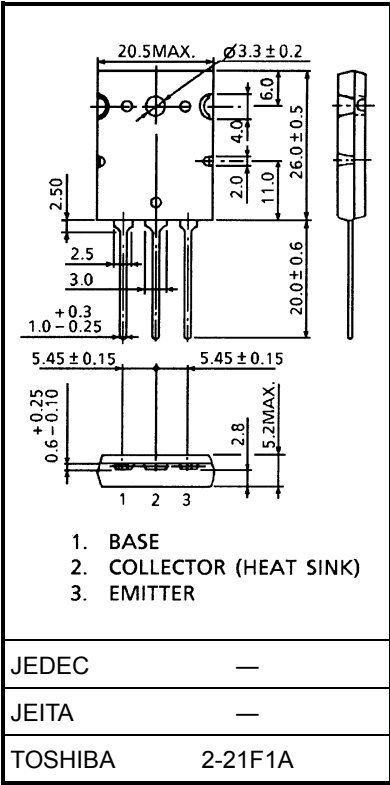
Maximum Ratings ($T_a = 25^\circ\text{C}$)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	100	V
Collector-emitter voltage	V_{CEO}	100	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	30	A
Base current	I_B	5	A
Collector power dissipation ($T_c = 25^\circ\text{C}$)	P_C	150	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55 to 150	$^\circ\text{C}$

Equivalent Circuit

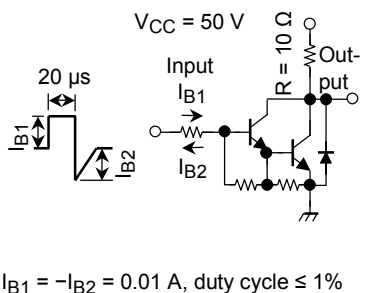


Unit: mm

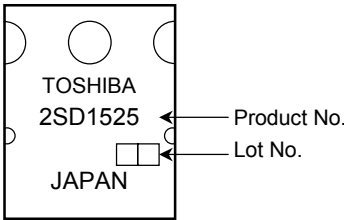


Weight: 9.75 g (typ.)

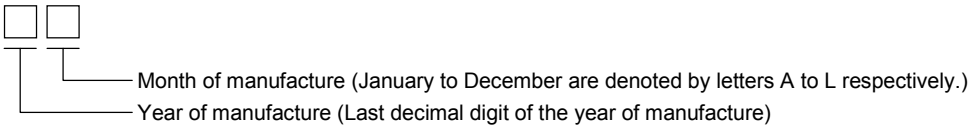
Electrical Characteristics (Ta = 25°C)

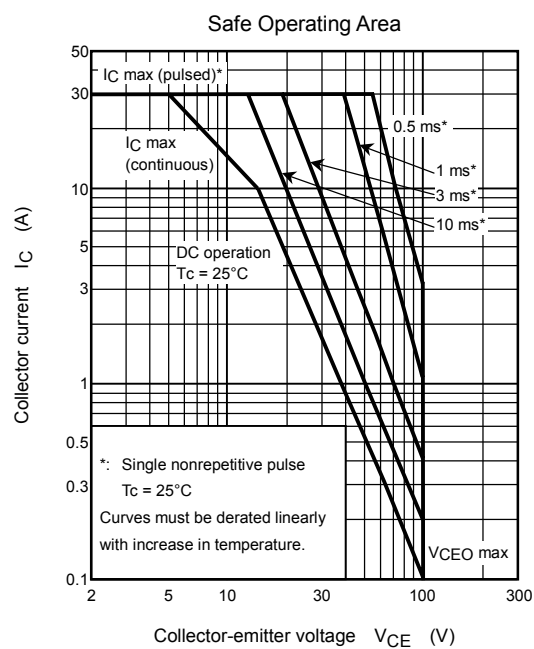
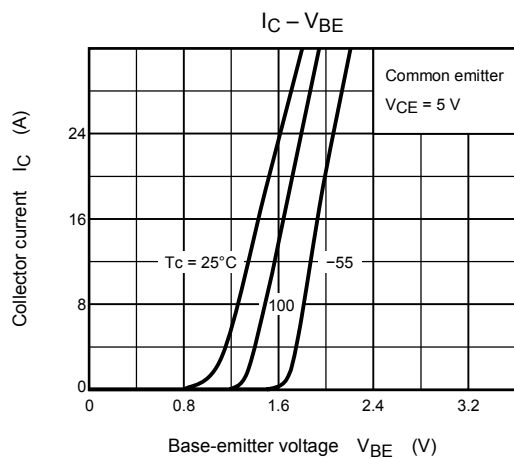
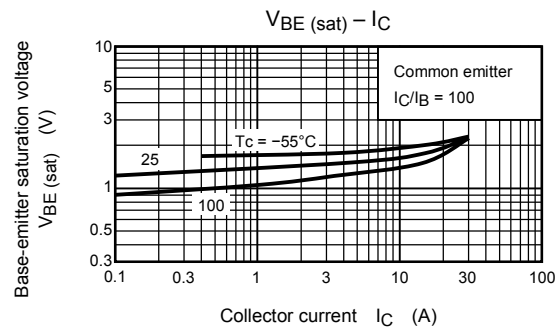
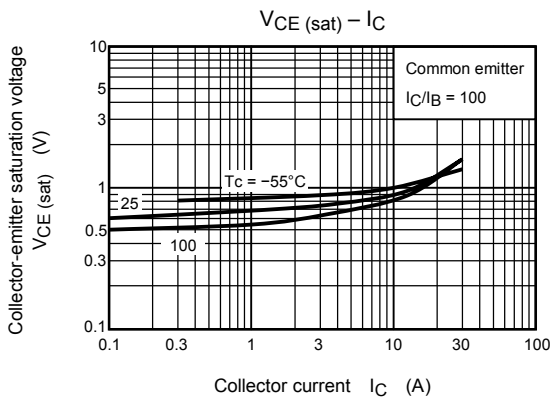
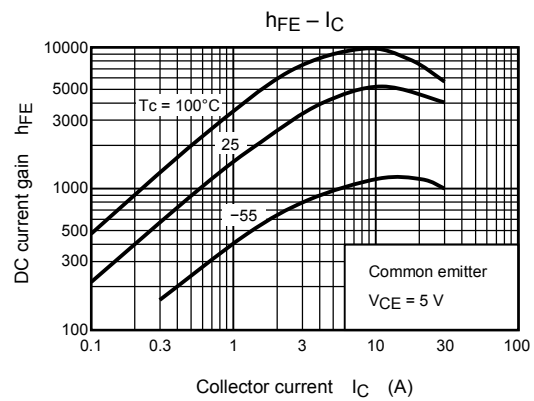
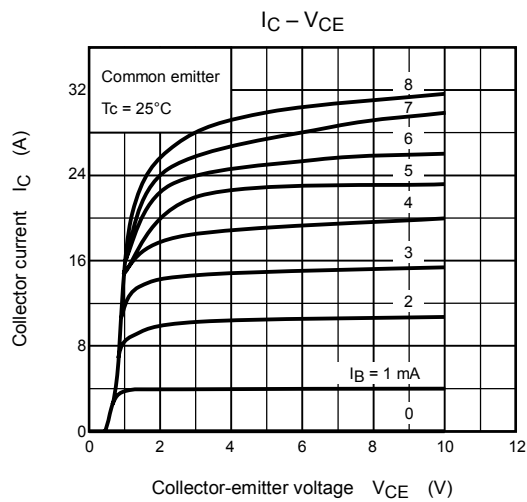
Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		ICBO	V _{CB} = 100 V, I _E = 0	—	—	100	μA
Emitter cut-off current		IEBO	V _{EB} = 5 V, I _C = 0	—	—	10	mA
Collector-emitter breakdown voltage		V _(BR) CEO	I _C = 50 mA, I _B = 0	100	—	—	V
DC current gain	h _{FE} (1)		V _{CE} = 5 V, I _C = 20 A	1000	—	—	
	h _{FE} (2)		V _{CE} = 5 V, I _C = 30 A	200	—	—	
Collector-emitter saturation voltage		V _{CE} (sat)	I _C = 20 A, I _B = 0.2 A	—	—	1.5	V
Base-emitter saturation voltage		V _{BE} (sat)		—	—	2.5	V
Emitter-collector forward voltage		V _{ECF}	I _E = 10 A, I _B = 0	—	—	3	V
Transition frequency		f _T	V _{CE} = 5 V, I _C = 1 A	—	10	—	MHz
Collector output capacitance		C _{ob}	V _{CB} = 10 V, I _E = 0, f = 1 MHz	—	500	—	pF
Switching time	Turn-on time	t _{on}	 V _{CC} = 50 V R = 10 Ω I _{B1} = -I _{B2} = 0.01 A, duty cycle ≤ 1%	—	1.5	—	μs
	Storage time	t _{stg}		—	10	—	
	Fall time	t _f		—	1.5	—	

Marking



Explanation of Lot No.





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