

TOSHIBA Transistor Silicon NPN Epitaxial Type (Darlington power transistor)

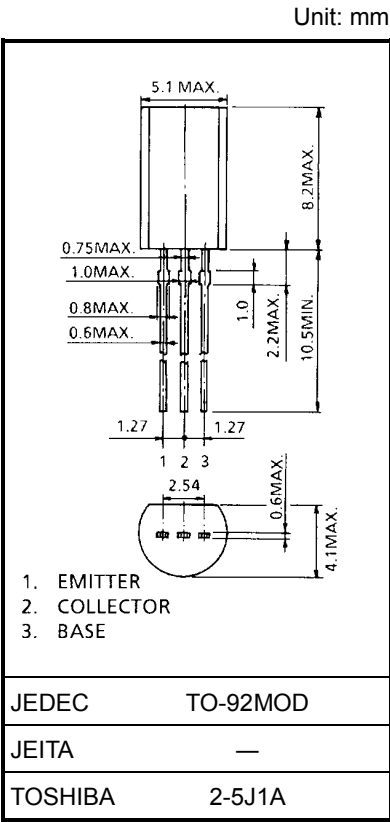
2SD2536

Switching Applications
Micro Motor Drive, Hammer Drive Applications

- High DC current gain: $h_{FE} = 2000$ (min) ($V_{CE} = 2\text{ V}$, $I_C = 1\text{ A}$)
- Low saturation voltage: $V_{CE(sat)} = 1.2\text{ V}$ (max)
($I_C = 0.7\text{ A}$, $V_{BH} = 4.2\text{ V}$)
- Zener diode included between collector and base.

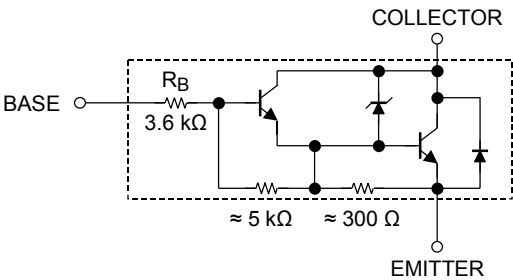
Maximum Ratings ($T_a = 25^\circ\text{C}$)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	85	V
Collector-emitter voltage	V_{CEO}	100 ± 15	V
Emitter-base voltage	V_{EBO}	6	V
Bias voltage	V_B	20	V
Collector current	I_C	2	A
Collector power dissipation	P_C	0.9	W
Base current	I_B	0.5	A
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55 to 150	$^\circ\text{C}$

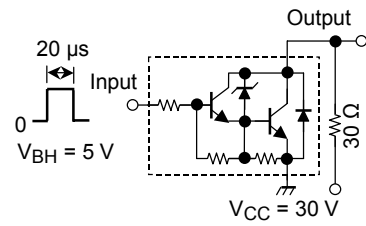


Weight: 0.36 g (typ.)

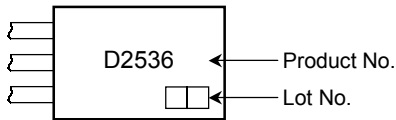
Equivalent Circuit



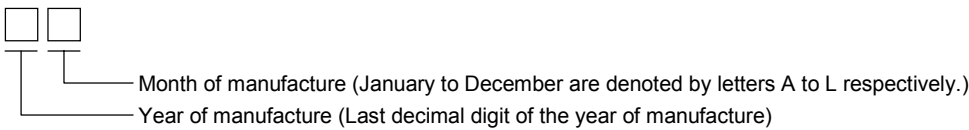
Electrical Characteristics (Ta = 25°C)

Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		ICBO	V _{CB} = 80 V, I _E = 0	—	—	10	μA
Emitter cut-off current		IEBO	V _{EB} = 6 V, I _C = 0	0.3	—	1.5	mA
Collector-emitter breakdown voltage		V _(BR) CEO	I _C = 10 mA, I _B = 0	85	100	115	V
Base resistance		R _B	—	2.5	3.6	4.7	kΩ
DC current gain		h _{FE}	V _{CE} = 2 V, I _C = 1 A	2000	—	—	
Collector-emitter saturation voltage	V _{CE} (sat) (1)		I _C = 0.7 A, V _{BH} = 4.2 V	—	—	1.2	V
	V _{CE} (sat) (2)		I _C = 1 A, V _{BH} = 4.2 V	—	—	1.5	
Input threshold voltage		V _{BL}	V _{CE} = 50 V, I _C = 100 μA	—	—	0.7	V
Collector output capacitance		C _{ob}	V _{CB} = 10 V, I _E = 0, f = 1 MHz	—	20	—	pF
Unclamped inductive load energy		E _{S/B}	L = 10 mH, I _C = 1 A, V _{BH} = 10 V	5	—	—	mJ
Switching time	Turn-on time	t _r		—	0.3	—	μs
	Storage time	t _{stg}		—	4.0	—	
	Fall time	t _f		—	0.6	—	

Marking



Explanation of Lot No.



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000707EAA

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