

**TOSHIBA**

**2SD2536**

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE

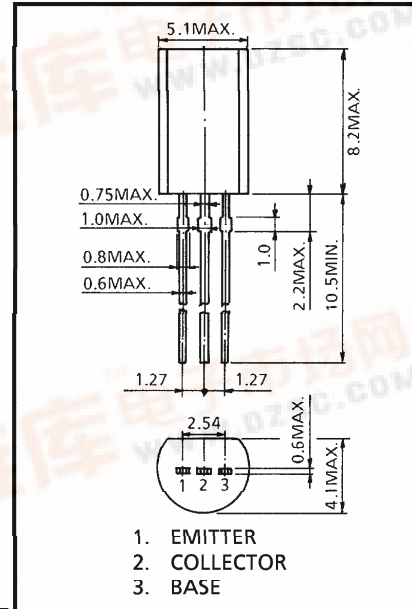
# 2SD2536

MICRO MOTOR DRIVE, HAMMER DRIVE APPLICATIONS.

SWITCHING APPLICATIONS.

- High DC Current Gain :  $h_{FE}=2000$  (Min.) ( $V_{CE}=2V$ ,  $I_C=1A$ )
- Low Saturation Voltage :  $V_{CE(sat)}=1.2V$  (Max.) ( $I_C=0.7A$ ,  $V_{BH}=4.2V$ )
- Zener Diode Included Between Collector and Base.

Unit in mm



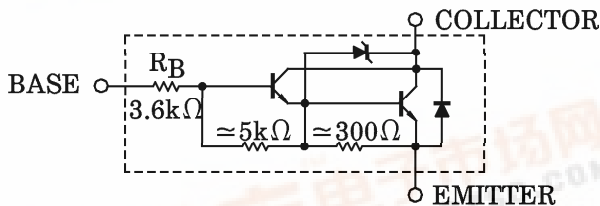
MAXIMUM RATINGS ( $T_a = 25^\circ C$ )

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	85	V
Collector-Emitter Voltage	$V_{CEO}$	$100 \pm 15$	V
Emitter-Base Voltage	$V_{EBO}$	6	V
Bias Voltage	$V_B$	20	V
Collector Current	$I_C$	2	A
Base Current	$I_B$	0.5	A
Collector Power Dissipation	$P_C$	0.9	W
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature Range	$T_{stg}$	$-55 \sim 150$	$^\circ C$

JEDEC	TO-92MOD
EIAJ	—
TOSHIBA	2-5J1A

Weight : 0.36g

EQUIVALENT CIRCUIT



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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		$I_{CBO}$	$V_{CB} = 80V, I_E = 0$	—	—	10	$\mu A$
Emitter Cut-off Current		$I_{EBO}$	$V_{EB} = 6V, I_C = 0$	0.3	—	1.5	mA
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C = 10mA, I_B = 0$	85	100	115	V
DC Current Gain		$h_{FE}$	$V_{CE} = 2V, I_C = 1A$	2000	—	—	
Collector-Emitter Saturation Voltage		$V_{CE(sat)(1)}$	$I_C = 0.7A, V_{BH} = 4.2V$	—	—	1.2	V
		$V_{CE(sat)(2)}$	$I_C = 1A, V_{BH} = 4.2V$	—	—	1.5	V
Base Resistance		$R_B$		2.5	3.6	4.7	k $\Omega$
Collector Output Capacitance		$C_{ob}$	$V_{CB} = 10V, I_E = 0, f = 1MHz$	—	20	—	pF
Unclamped Inductive Load Energy		$E_{S/B}$	$L = 10mH, I_C = 1.3A, V_{BH} = 10V$	5	—	—	mJ
Switching Time	Turn-on Time	$t_{on}$	<p><math>V_{BH} = 5V</math> DUTY CYCLE <math>\leq 1\%</math>    <math>V_{CC} = 30V</math></p>	—	0.3	—	$\mu s$
	Storage Time	$t_{stg}$		—	4.0	—	
	Fall Time	$t_f$		—	0.6	—	