

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (DARLINGTON)

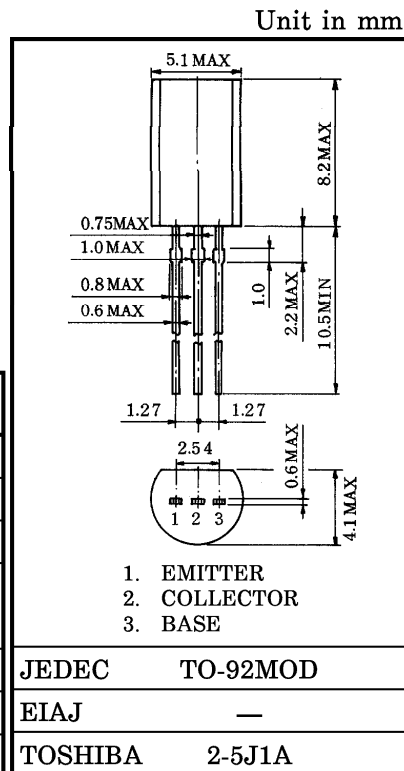
2SB1457

MICRO MOTOR DRIVE, HAMMER DRIVE APPLICATIONS.
 POWER SWITCHING APPLICATIONS.
 POWER AMPLIFIER APPLICATION.

- High DC Current Gain : $h_{FE} = 200$ (Min.) ($V_{CE} = -2V, I_C = -1A$)
- Low Saturation Voltage
 : $V_{CE(sat)} = -1.5V$ (Max.) ($I_C = -1A, I_B = -1mA$)

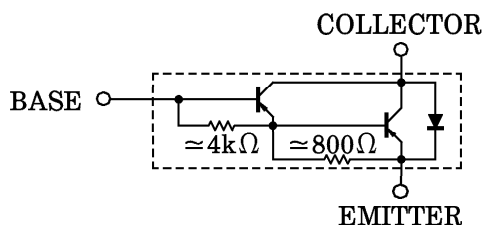
MAXIMUM RATINGS ($T_a = 25^\circ C$)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	-100	V
Collector-Emitter Voltage		V_{CEO}	-100	V
Emitter-Base Voltage		V_{EBO}	-8	V
Collector Current	DC	I_C	-2	A
	Peak	I_{CP}	-3	
Base Current		I_B	-0.5	A
Collector Power Dissipation		P_C	900	mW
Junction Temperature		T_j	150	$^\circ C$
Storage Temperature Range		T_{stg}	-55~150	$^\circ C$



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	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB} = -8V, I_C = 0$	—	—	-4	mA
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C = -10mA, I_B = 0$	-100	—	—	V
DC Current Gain		h_{FE}	$V_{CE} = -2V, I_C = -1A$ (Pulse)	2000	—	—	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C = -1A, I_B = -1mA$ (Pulse)	—	—	-1.5	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C = -1A, I_B = -1mA$ (Pulse)	—	—	-2.0	V
Transition Frequency		f_T	$V_{CE} = -2V, I_C = -0.5A$	—	50	—	MH
Collector Output Capacitance		C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1MHz$	—	27	—	pF
Switching Time	Turn-on Time	t_{on}	<p>$-I_{B1} = I_{B2} = 1mA$ DUTY CYCLE $\leq 1\%$</p>	—	0.4	—	μs
	Storage Time	t_{stg}		—	2.0	—	
	Fall Time	t_f		—	0.4	—	

