

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (DARLINGTON)

2SD2206

MICRO MOTOR DRIVE, HAMMER DRIVE APPLICATIONS.

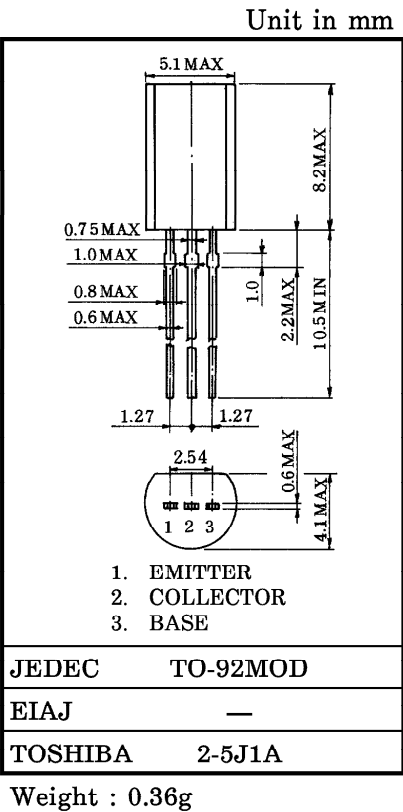
SWITCHING APPLICATIONS.

POWER AMPLIFIER APPLICATIONS.

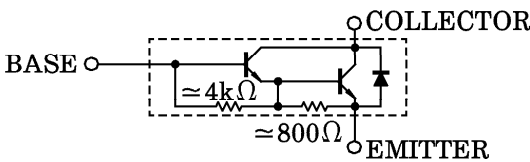
- High DC Current Gain : $h_{FE}=2000$ (Min.) ($V_{CE}=2V$, $I_C=1A$)
- Low Saturation Voltage
: $V_{CE(sat)}=1.5V$ (Max.) ($I_C=1A$, $I_B=1mA$)

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	I_C	2	A
Collector Current	$I_{C(Pulse)}$	3	A
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}	$-55\sim150$	$^{\circ}C$



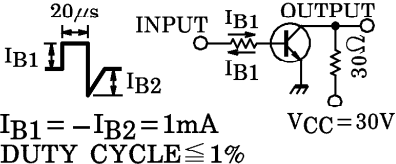
EQUIVALENT CIRCUIT



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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	$V_{CE} = 2V, I_C = 0.5A$	—	100	—	MHz
Collector Output Capacitance		C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$	—	20	—	pF
Switching Time	Turn-On Time	t_{on}	 $I_{B1} = -I_{B2} = 1mA$ DUTY CYCLE $\leq 1\%$	—	0.4	—	μs
	Storage Time	t_{stg}		—	4.0	—	
	Fall Time	t_f		—	0.6	—	

