

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (DARLINGTON)

# 2SD2206

MICRO MOTOR DRIVE, HAMMER DRIVE APPLICATIONS.

SWITCHING APPLICATIONS.

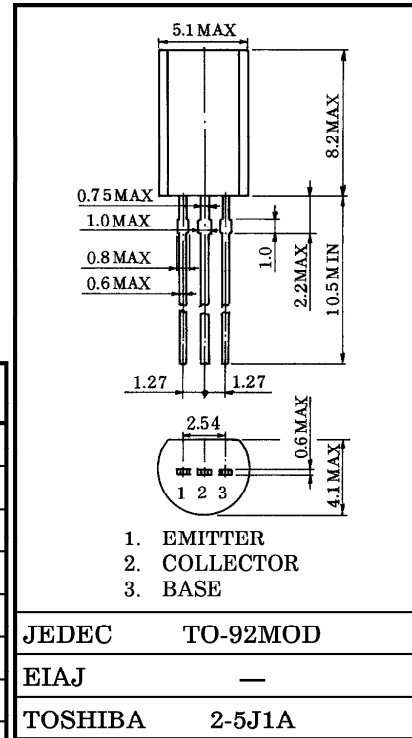
POWER AMPLIFIER APPLICATIONS.

- 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 ( $T_a = 25^\circ C$ )

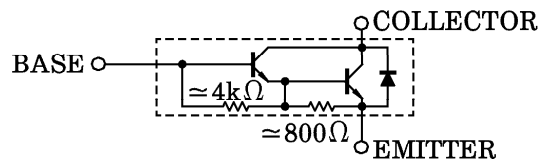
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	100	V
Collector-Emitter Voltage	$V_{CEO}$	100	V
Emitter-Base Voltage	$V_{EBO}$	8	V
Collector Current	$I_C$	2	A
Collector Current	$I_C(\text{Pulse})$	3	A
Base Current	$I_B$	0.5	A
Collector Power Dissipation	$P_C$	900	mW
Junction Temperature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

Unit in mm



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		$I_{EBO}$	$V_{EB} = 8V, I_C = 0$	—	—	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	$t_{on}$	<p> <math>I_{B1} = -I_{B2} = 1mA</math>                      DUTY CYCLE <math>\leq 1\%</math> </p>	—	0.4	—	$\mu s$
	Storage Time	$t_{stg}$		—	4.0	—	
	Fall Time	$t_f$		—	0.6	—	

