

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE (DARLINGTON)

# 2SD2079

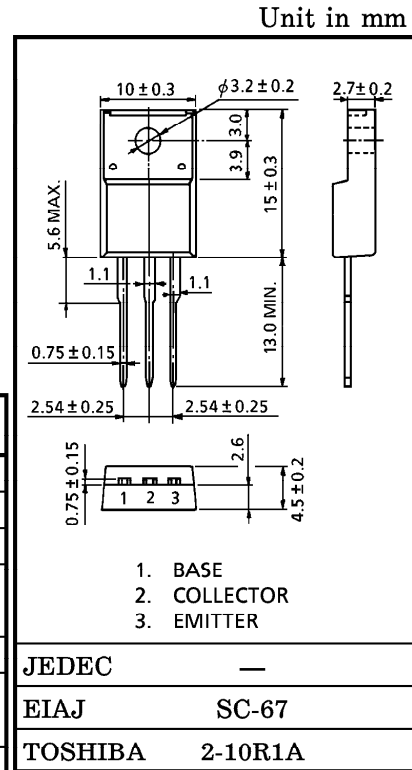
HIGH POWER SWITCHING APPLICATIONS.

HAMMER DRIVE, PULSE MOTOR DRIVE APPLICATIONS.

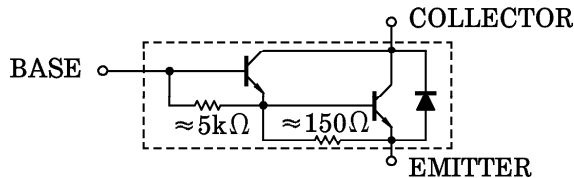
- High DC Current Gain  
:  $h_{FE}(1) = 2000$  (Min.)
- Low Saturation Voltage :  $V_{CE(sat)}(1) = 1.5V$  (Max.)
- Complementary to 2SB1381.

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	$V_{EBO}$	7	V
Collector Current	DC	$I_C$	5
	Pulse	$I_{CP}$	8
Base Current	$I_B$	0.5	A
Collector Power Dissipation	$T_a = 25^\circ C$	$P_C$	2.0
	$T_c = 25^\circ C$		30
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature Range	$T_{stg}$	-55~150	$^\circ C$



EQUIVALENT CIRCUIT



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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		ICBO	V <sub>CB</sub> = 100V, I <sub>E</sub> = 0	—	—	100	μA
Emitter Cut-off Current		I <sub>EBO</sub>	V <sub>EB</sub> = 6V, I <sub>C</sub> = 0	—	—	2.5	mA
Collector-Emitter Breakdown Voltage		V <sub>(BR) CEO</sub>	I <sub>C</sub> = 30mA, I <sub>B</sub> = 0	100	—	—	V
DC Current Gain		h <sub>FE</sub> (1)	V <sub>CE</sub> = 3V, I <sub>C</sub> = 3A	2000	—	15000	
		h <sub>FE</sub> (2)	V <sub>CE</sub> = 3V, I <sub>C</sub> = 5A	1000	—	—	
Collector-Emitter Saturation Voltage		V <sub>CE (sat)</sub> (1)	I <sub>C</sub> = 3A, I <sub>B</sub> = 6mA	—	1.1	1.5	V
		V <sub>CE (sat)</sub> (2)	I <sub>C</sub> = 5A, I <sub>B</sub> = 20mA	—	1.3	2.5	
Base-Emitter Saturation Voltage		V <sub>BE (sat)</sub>	I <sub>C</sub> = 3A, I <sub>B</sub> = 6mA	—	1.7	2.5	V
Switching Time	Turn-on Time	t <sub>on</sub>	<p> <math>I_{B1} = -I_{B2} = 6\text{mA}</math>,                      DUTY CYCLE <math>\leq 1\%</math> </p>	—	1.0	—	μs
	Storage Time	t <sub>stg</sub>		—	4.0	—	
	Fall Time	t <sub>f</sub>		—	—	2.5	

