

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE (DARLINGTON)

## 2SD2079

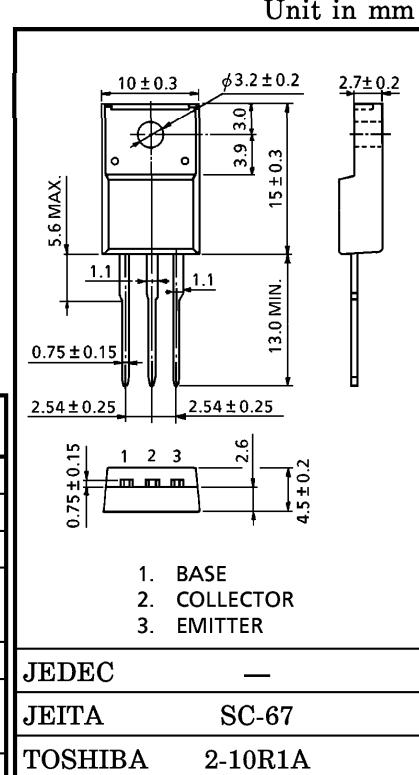
HIGH POWER SWITCHING APPLICATIONS

HAMMER DRIVE, PULSE MOTOR DRIVE APPLICATIONS

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

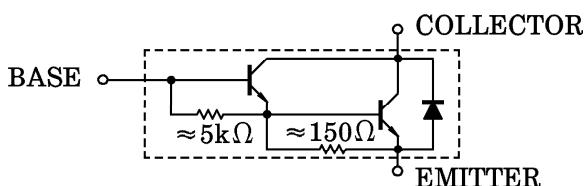
MAXIMUM RATINGS ( $T_c = 25^\circ\text{C}$ )

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	A
	Pulse	$I_{CP}$	8	
Base Current		$I_B$	0.5	A
Collector Power Dissipation	$T_a = 25^\circ\text{C}$	$P_C$	2.0	W
	$T_c = 25^\circ\text{C}$		30	
Junction Temperature		$T_j$	150	$^\circ\text{C}$
Storage Temperature Range		$T_{stg}$	$-55 \sim 150$	$^\circ\text{C}$

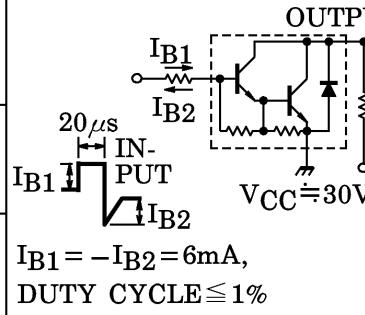


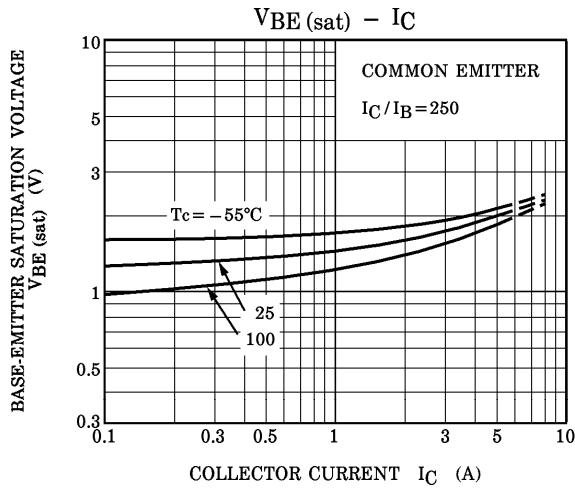
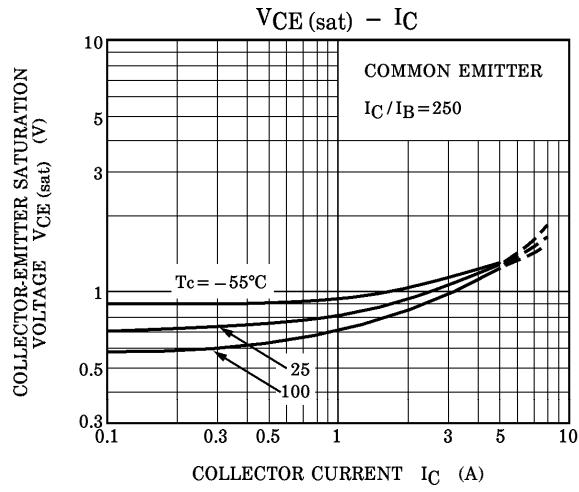
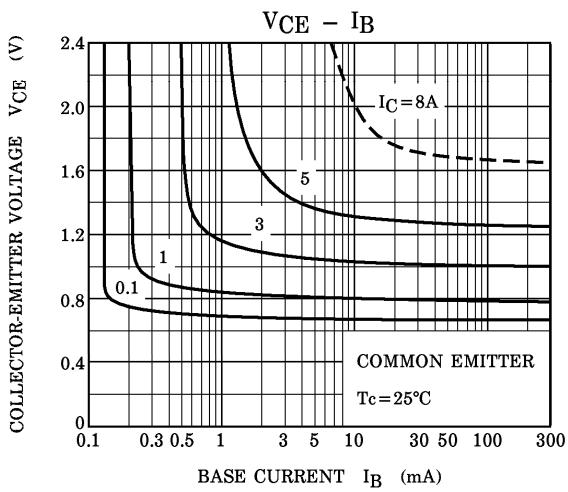
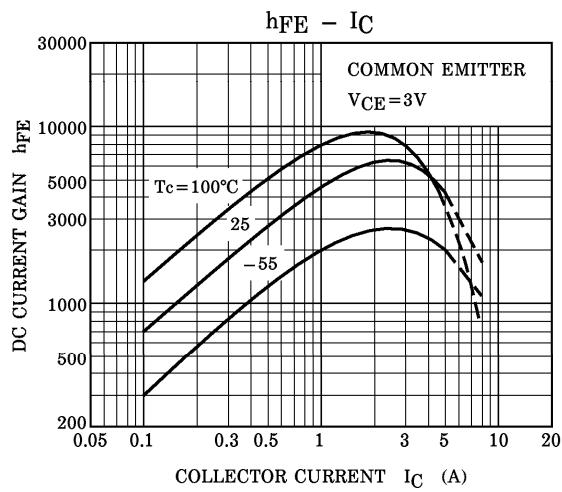
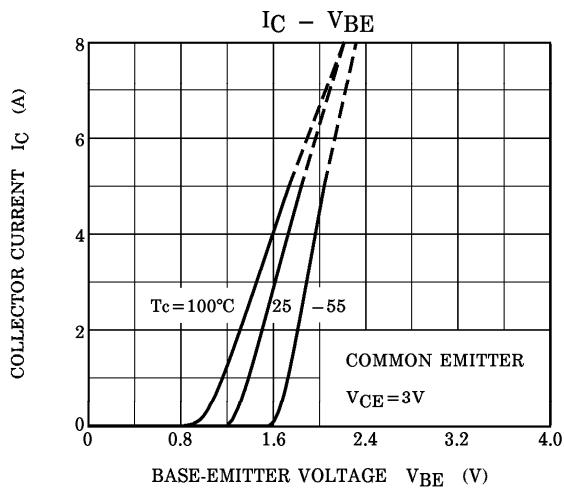
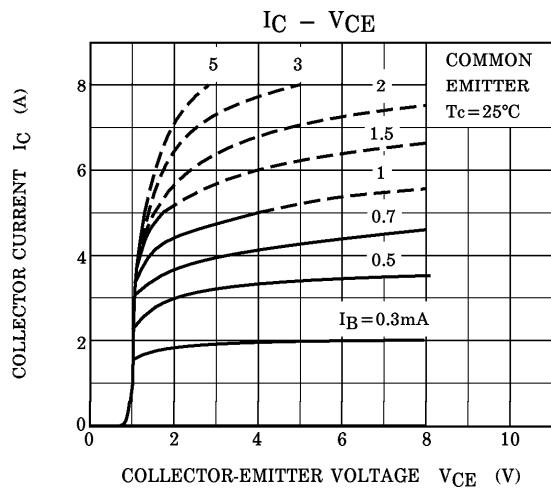
Weight : 1.7g (Typ.)

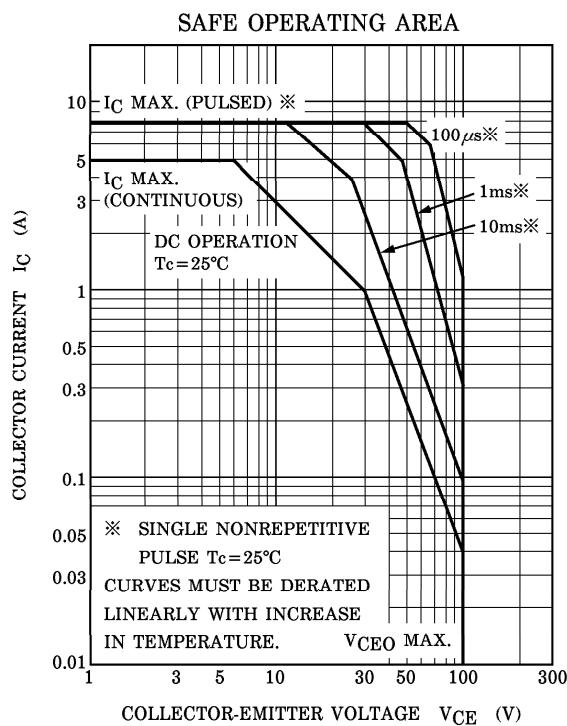
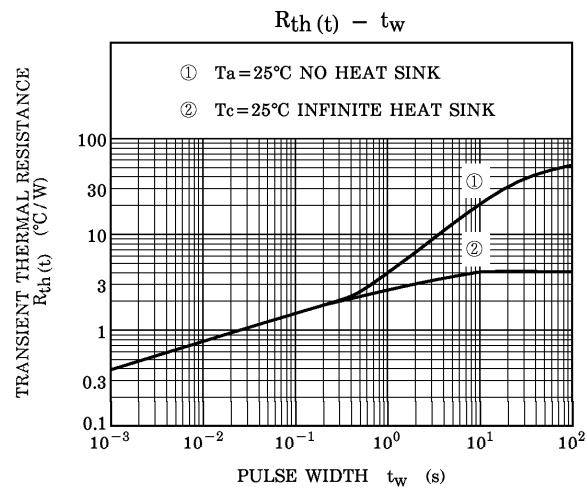
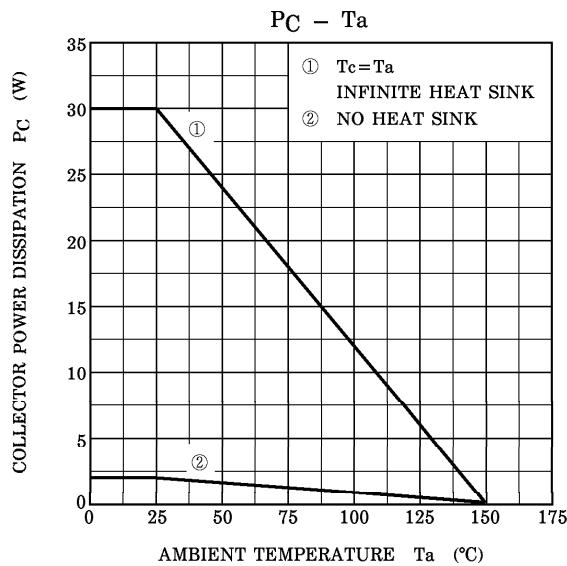
EQUIVALENT CIRCUIT



ELECTRICAL CHARACTERISTICS ( $T_c = 25^\circ\text{C}$ )

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 100\text{V}$ , $I_E = 0$	—	—	100	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 6\text{V}$ , $I_C = 0$	—	—	2.5	$\text{mA}$
Collector-Emitter Breakdown Voltage	$V_{(\text{BR})\text{CEO}}$	$I_C = 30\text{mA}$ , $I_B = 0$	100	—	—	V
DC Current Gain	$h_{FE}$ (1)	$V_{CE} = 3\text{V}$ , $I_C = 3\text{A}$	2000	—	15000	
	$h_{FE}$ (2)	$V_{CE} = 3\text{V}$ , $I_C = 5\text{A}$	1000	—	—	
Collector-Emitter Saturation Voltage	$V_{CE(\text{sat})}$ (1)	$I_C = 3\text{A}$ , $I_B = 6\text{mA}$	—	1.1	1.5	V
	$V_{CE(\text{sat})}$ (2)	$I_C = 5\text{A}$ , $I_B = 20\text{mA}$	—	1.3	2.5	
Base-Emitter Saturation Voltage	$V_{BE(\text{sat})}$	$I_C = 3\text{A}$ , $I_B = 6\text{mA}$	—	1.7	2.5	V
Switching Time	Turn-on Time	$t_{on}$		—	1.0	μs
	Storage Time	$t_{stg}$		—	4.0	
	Fall Time	$t_f$		—	2.5	





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