

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE (DARLINGTON)

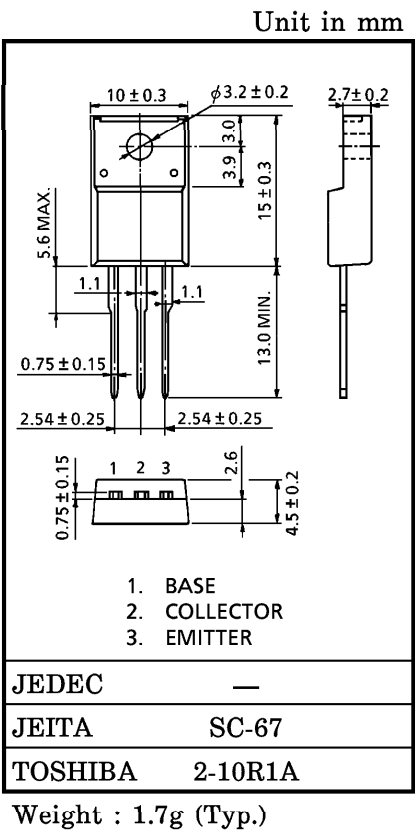
2SD2079

HIGH POWER SWITCHING APPLICATIONS
HAMMER DRIVE, PULSE MOTOR DRIVE APPLICATIONS

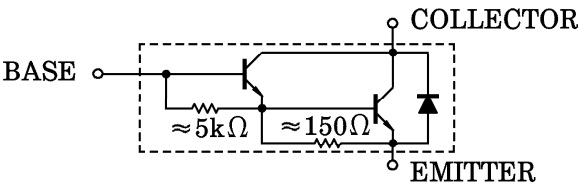
- High DC Current Gain
: $h_{FE}(1)=2000$ (Min.)
- Low Saturation Voltage : $V_{CE(sat)}(1)=1.5V$ (Max.)
- Complementary to 2SB1381.

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

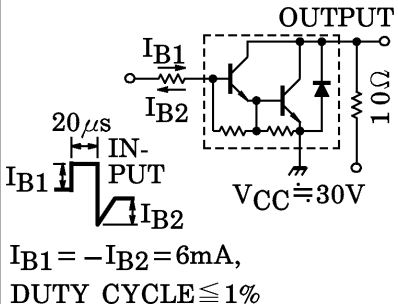
CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CB0}	100	V
Collector-Emitter Voltage		V_{CEO}	100	V
Emitter-Base Voltage		V_{EBO}	7	V
Collector Current	DC	I_C	5	A
	Pulse	I_{CP}	8	
Base Current		I_B	0.5	A
Collector Power Dissipation	$T_a = 25^{\circ}C$	P_C	2.0	W
	$T_c = 25^{\circ}C$		30	
Junction Temperature		T_j	150	$^{\circ}C$
Storage Temperature Range		T_{stg}	$-55 \sim 150$	$^{\circ}C$

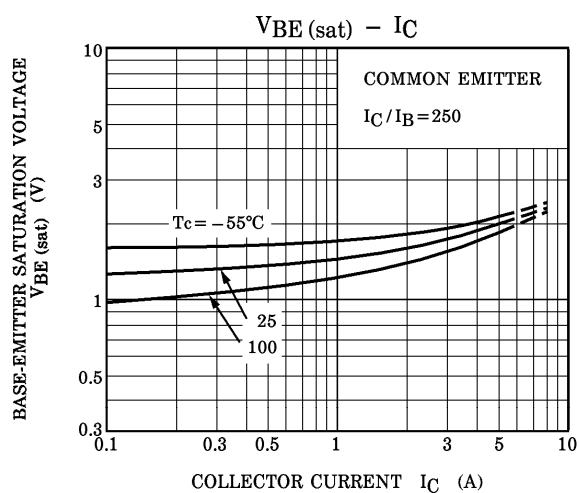
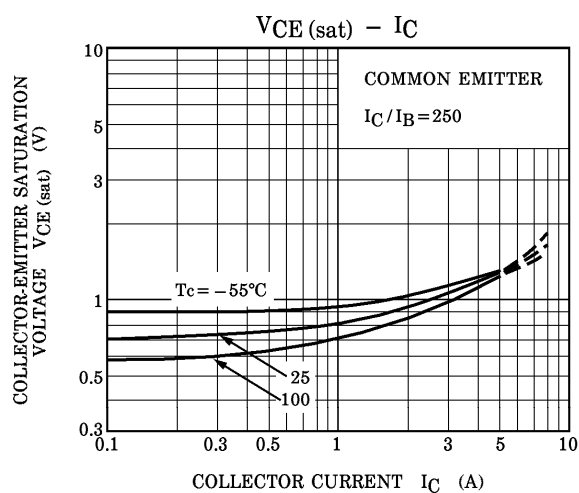
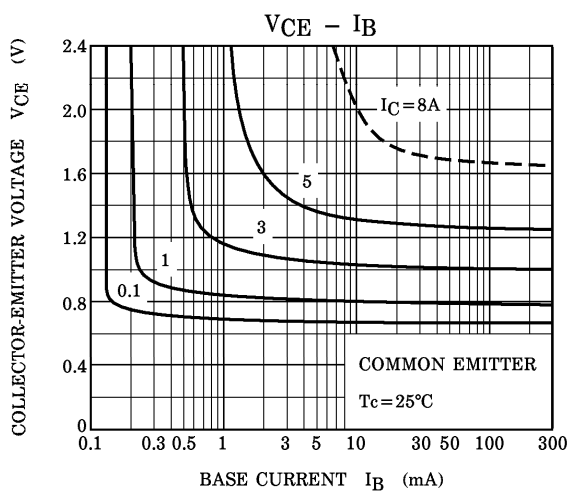
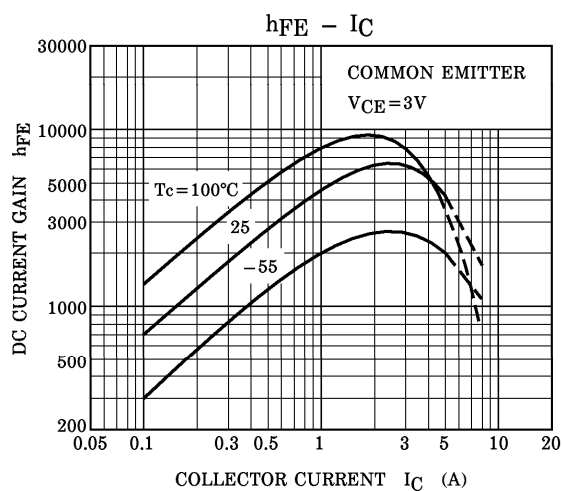
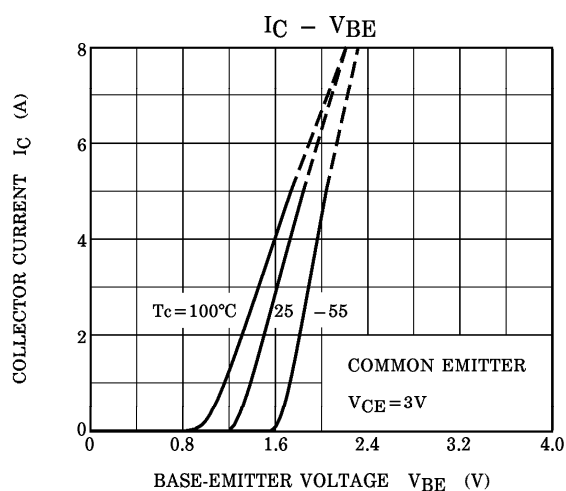
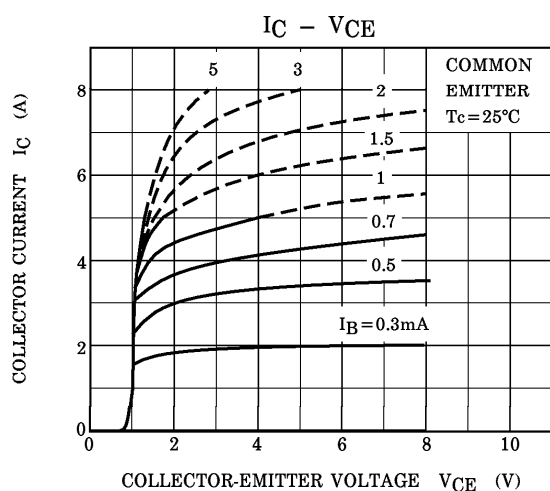


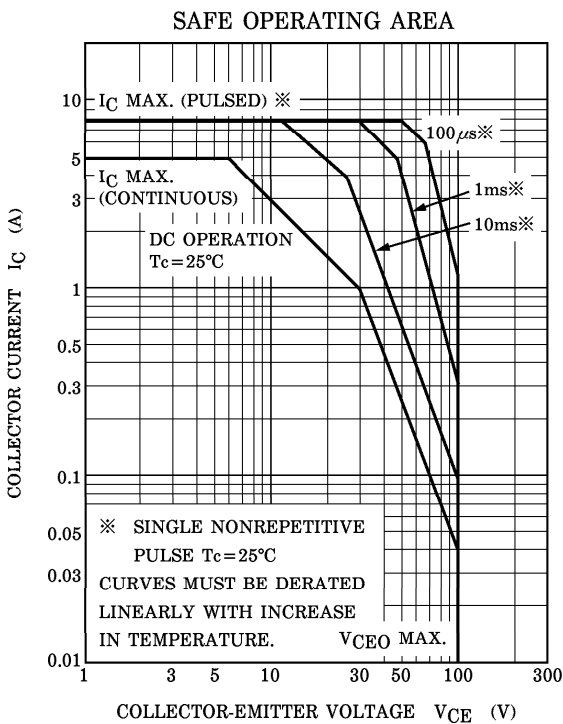
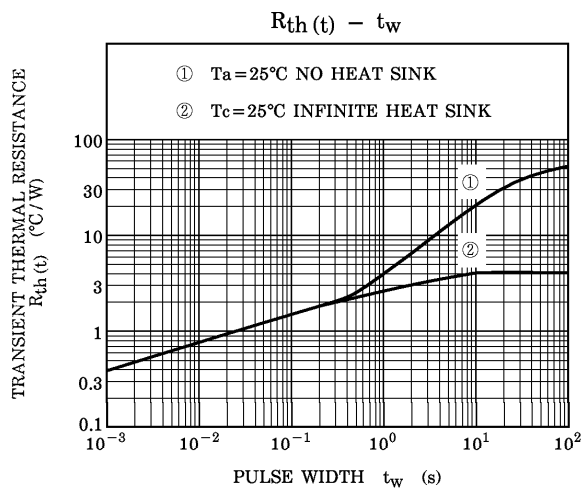
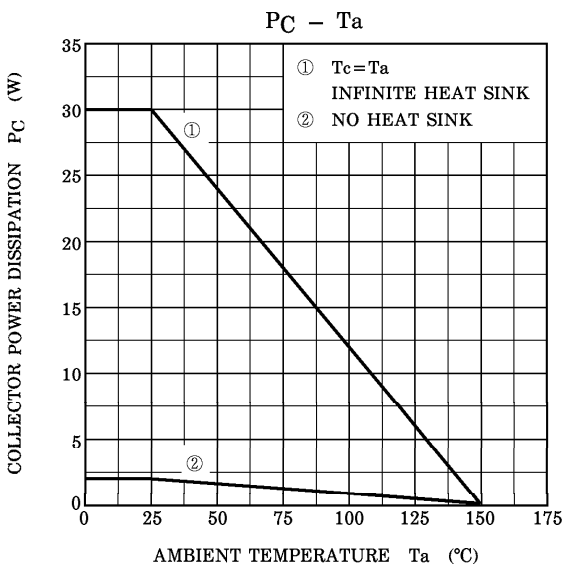
EQUIVALENT CIRCUIT



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	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB} = 6\text{V}, I_C = 0$	—	—	2.5	mA
Collector-Emitter Breakdown Voltage		$V_{(BR) CEO}$	$I_C = 30\text{mA}, I_B = 0$	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		$V_{CE(sat)(1)}$	$I_C = 3\text{A}, I_B = 6\text{mA}$	—	1.1	1.5	V
		$V_{CE(sat)(2)}$	$I_C = 5\text{A}, I_B = 20\text{mA}$	—	1.3	2.5	
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C = 3\text{A}, I_B = 6\text{mA}$	—	1.7	2.5	V
Switching Time	Turn-on Time	t_{on}	 <p>$I_{B1} = -I_{B2} = 6\text{mA}$, DUTY CYCLE $\leq 1\%$</p>	—	1.0	—	μs
	Storage Time	t_{stg}		—	4.0	—	
	Fall Time	t_f		—	2.5	—	





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