

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE

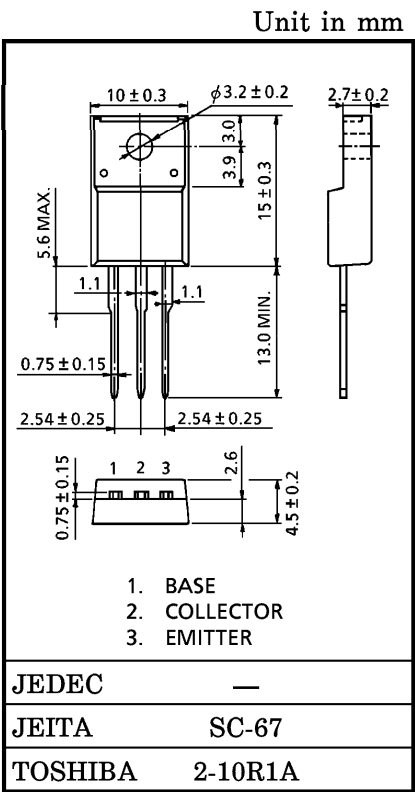
2SD2257

HIGH POWER SWITCHING APPLICATIONS
HAMMER DRIVE, PULSE MOTOR DRIVE APPLICATIONS

- High DC Current Gain : $h_{FE}=2000$ (MIN.)
- Low Saturation Voltage : $V_{CE(sat)}=1.5V$ (MAX.)
- Complementary to 2SB1495

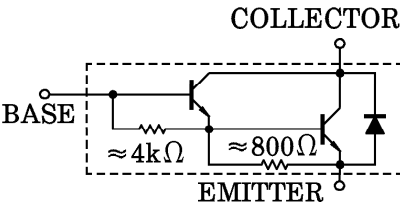
MAXIMUM RATINGS (Tc = 25°C)

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	DC	I_C	± 3	A
	Pulse	I_{CP}	± 5	
Base Current		I_B	0.3	A
Collector Power Dissipation	Ta = 25°C	P_C	2.0	W
	Tc = 25°C		20	
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	-55~150	°C

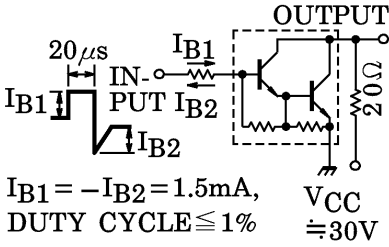


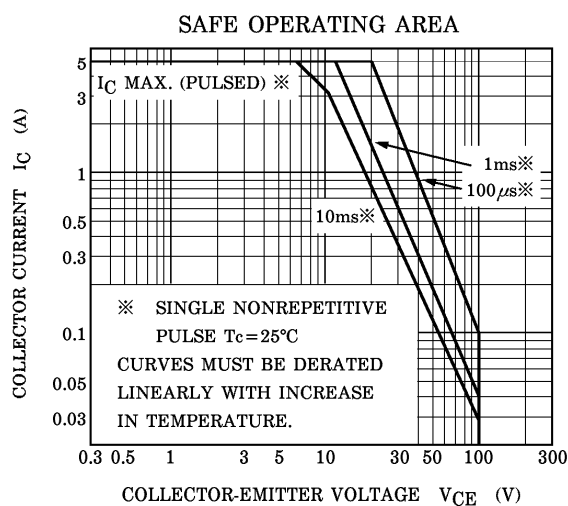
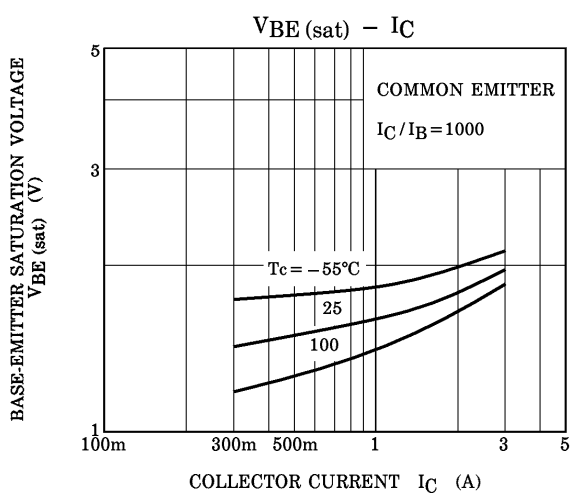
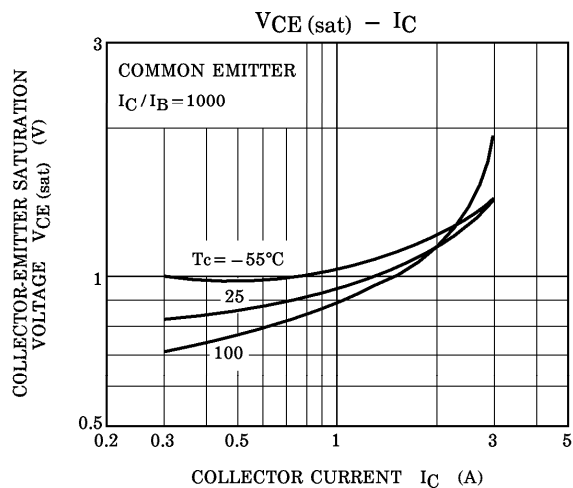
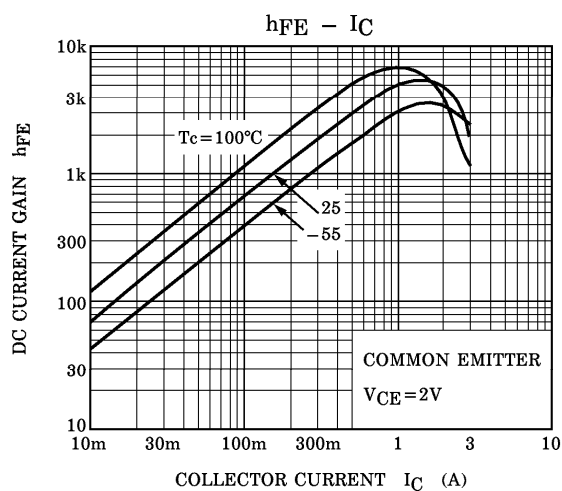
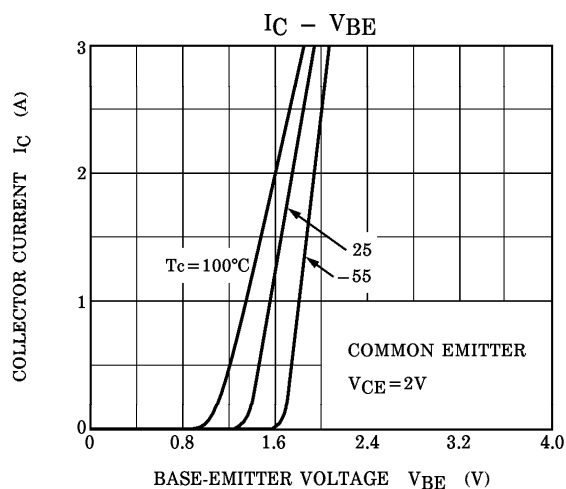
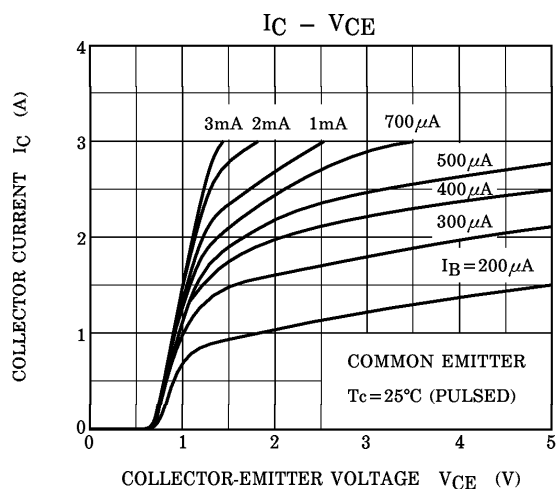
Weight : 1.7g (Typ.)

EQUIVALENT CIRCUIT



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

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB} = 100\text{V}, I_E = 0$	—	—	10	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB} = 8\text{V}, I_C = 0$	0.8	—	4.0	mA
Collector-Emitter Breakdown Voltage		$V_{(BR) CEO}$	$I_C = 10\text{mA}, I_B = 0$	100	—	—	V
DC Current Gain		$h_{FE(1)}$	$V_{CE} = 2\text{V}, I_C = 1\text{A}$	2000	—	—	
		$h_{FE(2)}$	$V_{CE} = 2\text{V}, I_C = 2\text{A}$	2000	—	—	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C = 1.5\text{A}, I_B = 1.5\text{mA}$	—	—	1.5	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C = 1.5\text{A}, I_B = 1.5\text{mA}$	—	—	2.0	V
Emitter-Collector Forward Voltage		V_{ECF}	$I_E = 1\text{A}, I_B = 0$	—	—	2.0	V
Switching Time	Turn-on Time	t_{on}	 $I_{B1} = -I_{B2} = 1.5\text{mA}$, DUTY CYCLE $\leq 1\%$ $V_{CC} \cong 30\text{V}$	—	0.5	—	μs
	Storage Time	t_{stg}		—	2.0	—	
	Fall Time	t_f		—	0.5	—	



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