

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE

2SD2257

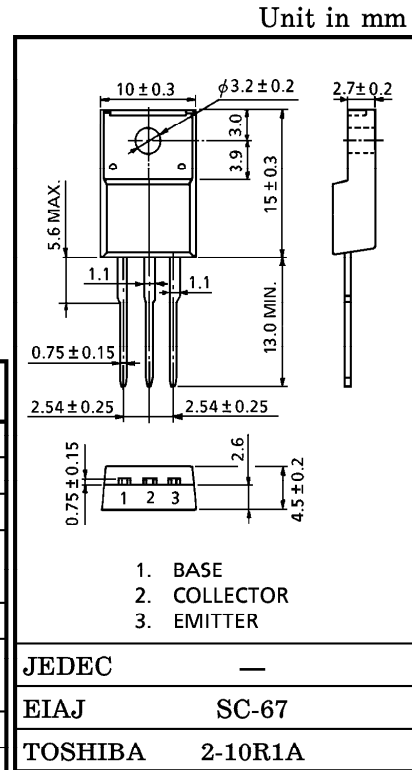
HIGH POWER SWITCHING APPLICATIONS

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

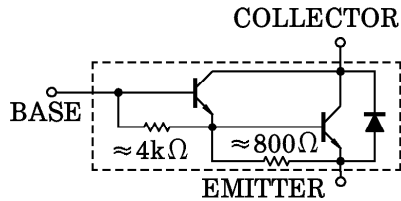
MAXIMUM RATINGS ($T_a = 25^\circ C$)

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



Weight : 1.7g (Typ.)

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 _{CB} = 100V, I _E = 0	—	—	10	μA
Emitter Cut-off Current		IEBO	V _{EB} = 8V, I _C = 0	0.8	—	4.0	mA
Collector-Emitter Breakdown Voltage		V _{(BR) CEO}	I _C = 10mA, I _B = 0	100	—	—	V
DC Current Gain		h _{FE} (1)	V _{CE} = 2V, I _C = 1A	2000	—	—	
		h _{FE} (2)	V _{CE} = 2V, I _C = 2A	2000	—	—	
Collector-Emitter Saturation Voltage		V _{CE (sat)}	I _C = 1.5A, I _B = 1.5mA	—	—	1.5	V
Base-Emitter Saturation Voltage		V _{BE (sat)}	I _C = 1.5A, I _B = 1.5mA	—	—	2.0	V
Emitter-Collector Forward Voltage		V _{ECF}	I _E = 1A, I _B = 0	—	—	2.0	V
Switching Time	Turn-on Time	t _{on}	<p> $I_{B1} = -I_{B2} = 1.5\text{mA}$, DUTY CYCLE $\leq 1\%$, $V_{CC} = 30\text{V}$ </p>	—	0.5	—	μs
	Storage Time	t _{stg}		—	2.0	—	
	Fall Time	t _f		—	—	0.5	

