

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

# 2SD2571

HIGH POWER SWITCHING APPLICATIONS

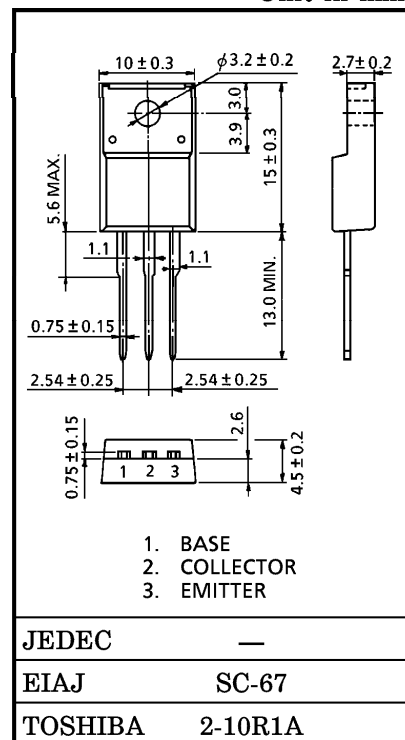
HAMMER DRIVE, PULSE MOTOR DRIVE APPLICATIONS

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

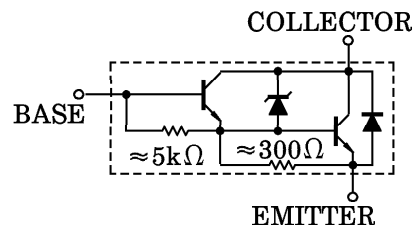
MAXIMUM RATINGS ( $T_a=25^\circ C$ )

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		$V_{CBO}$	$100 \pm 10$	V
Collector-Emitter Voltage		$V_{CEO}$	$100 \pm 10$	V
Emitter-Base Voltage		$V_{EBO}$	8	V
Collector Current	DC	$I_C$	2	A
	Pulse	$I_{CP}$	3	
Base Current		$I_B$	0.5	A
Collector Power Dissipation	$T_a=25^\circ C$	$P_C$	2.0	W
	$T_c=25^\circ C$		25	
Junction Temperature		$T_j$	150	$^\circ C$
Storage Temperature Range		$T_{stg}$	$-55 \sim 150$	$^\circ C$

Unit in mm



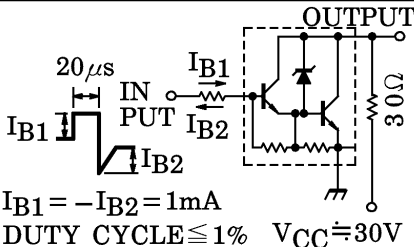
EQUIVALENT CIRCUIT



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## ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		$I_{CBO}$	$V_{CB} = 80V, I_E = 0$	—	—	100	$\mu A$
Emitter Cut-off Current		$I_{EBO}$	$V_{EB} = 8V, I_C = 0$	0.8	—	4.0	mA
Collector-Emitter Breakdown Voltage		$V_{(BR) CEO}$	$I_C = 10mA, I_B = 0$	85	100	115	V
DC Current Gain	$h_{FE} (1)$		$V_{CE} = 2V, I_C = 1A$	2000	—	15000	
	$h_{FE} (2)$		$V_{CE} = 2V, I_C = 1.5A$	1000	—	—	
Collector-Emitter Saturation Voltage		$V_{CE (sat)}$	$I_C = 1A, I_B = 1mA$	—	—	1.5	V
Base-Emitter Saturation Voltage		$V_{BE (sat)}$	$I_C = 1A, I_B = 1mA$	—	—	2.0	V
Switching Time	Turn-on Time	$t_{on}$	 <p><math>I_{B1} = -I_{B2} = 1mA</math> DUTY CYCLE <math>\leq 1\%</math> <math>V_{CC} \doteq 30V</math></p>	—	0.45	—	$\mu s$
	Storage Time	$t_{stg}$		—	2.0	—	
	Fall Time	$t_f$		—	0.4	—	