

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

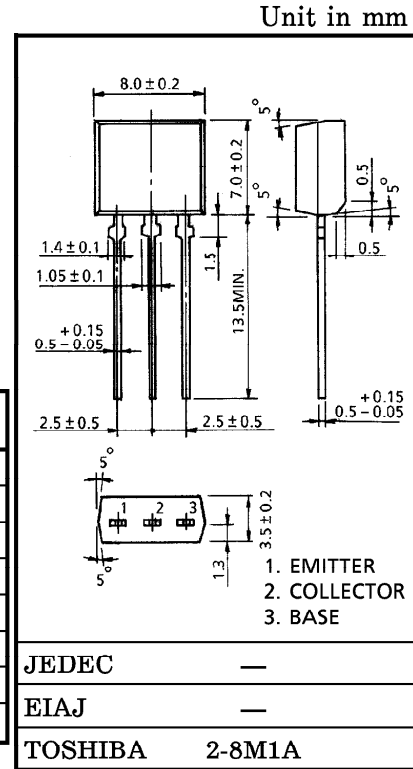
2SC5028

POWER AMPLIFIER APPLICATIONS
POWER SWITCHING APPLICATIONS

- Low Collector Saturation Voltage : $V_{CE(sat)} = -0.5V$ (Max.)
- High Collector Power Dissipation : $P_C = 1.3W$ ($T_a = 25^\circ C$)
- High Speed Switching Time : $t_{stg} = 500ns$ (Typ.)
- Complementary to 2SA1891

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	2	A
Base Current	I_B	0.2	A
Collector Power Dissipation	P_C	1.3	W
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55~150	$^\circ C$



Weight : 0.55g (Typ.)

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB} = 80V, I_E = 0$	—	—	1.0	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB} = 6V, I_C = 0$	—	—	1.0	μA
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C = 10mA, I_B = 0$	50	—	—	V
DC Current Gain		$h_{FE(1)}$	$V_{CE} = 2V, I_C = 100mA$	120	—	400	
		$h_{FE(2)}$	$V_{CE} = 2V, I_C = 1.5A$	40	—	—	
Saturation Voltage	Collector-Emitter	$V_{CE(sat)}$	$I_C = 1A, I_B = 0.05A$	—	—	0.5	V
	Base-Emitter	$V_{BE(sat)}$	$I_C = 1A, I_B = 0.05A$	—	—	1.2	
Transition Frequency		f_T	$V_{CE} = 2V, I_C = 100mA$	—	100	—	MHz
Collector Output Capacitance		C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$	—	14	—	pF
Switching Time	Turn-on Time	t_{on}		—	0.1	—	μs
	Storage Time	t_{stg}		—	0.5	—	
	Fall Time	t_f		$I_{B1} = -I_{B2} = 0.05A,$ $DUTY\ CYCLE \leq 1\%$	—	0.1	

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