

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

2SA1213

POWER AMPLIFIER APPLICATIONS

POWER SWITCHING APPLICATIONS

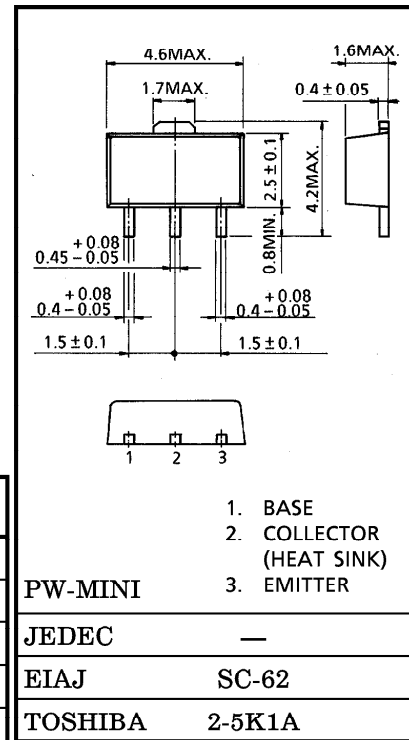
- Low Saturation Voltage : $V_{CE(sat)} = -0.5V$ (Max.)
($I_C = -1A$)
- High Speed Switching Time: $t_{stg} = 1.0\mu s$ (Typ.)
- $P_C = 1 \sim 2W$ (Mounted on Ceramic Substrate)
- Small Flat Package
- Complementary to 2SC2873

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	-50	V
Collector-Emitter Voltage	V_{CEO}	-50	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-2	A
Base Current	I_B	-0.4	A
Collector Power Dissipation	P_C	500	mW
Collector Power Dissipation	P_C^*	1000	mW
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55~150	$^\circ C$

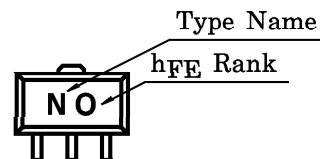
* : Mounted on ceramic substrate (250mm²×0.8t)

Unit in mm



Weight : 0.05g

Marking



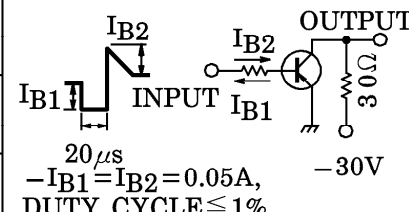
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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Collector Cut-off Current	I_{CBO}	$V_{CB} = -50V, I_E = 0$	—	—	-0.1	μA	
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -5V, I_C = 0$	—	—	-0.1	μA	
Collector-Emitter Breakdown Voltage	$V(BR)_{CEO}$	$I_C = -10mA, I_B = 0$	-50	—	—	V	
DC Current Gain	$h_{FE(1)}$ (Note)	$V_{CE} = -2V, I_C = -0.5A$	70	—	240		
	$h_{FE(2)}$	$V_{CE} = -2V, I_C = -2.0A$	20	—	—		
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -1A, I_B = -0.05A$	—	—	-0.5	V	
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -1A, I_B = -0.05A$	—	—	-1.2	V	
Transition Frequency	f_T	$V_{CE} = -2V, I_C = -0.5A$	—	120	—	MHz	
Collector Output Capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1MHz$	—	40	—	pF	
Switching Time	Turn-on Time	t_{on}	 <p> $20\mu s$ $-I_{B1} = I_{B2} = 0.05A,$ DUTY CYCLE $\leq 1\%$ </p>	—	0.1	—	μs
	Storage Time	t_{stg}		—	1.0	—	
	Fall Time	t_f		—	0.1	—	

Note : $h_{FE(1)}$ Classification O : 70~140, Y : 120~240

