

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

2SC3803

HIGH FREQUENCY AMPLIFIER APPLICATIONS

VIDEO AMPLIFIER APPLICATIONS

HIGH SPEED SWITCHING APPLICATIONS

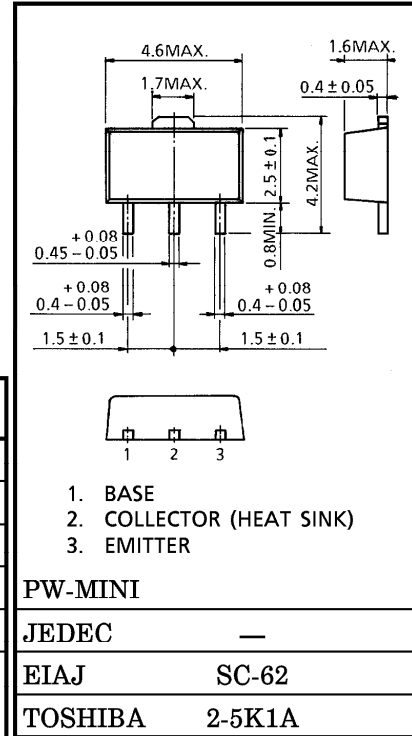
- High Transition Frequency : $f_T = 200\text{MHz}$ (Typ.)
- Low Collector Output Capacitance : $C_{ob} = 3.5\text{pF}$ (Typ.)
- Complementary to 2SA1483

MAXIMUM RATINGS (Ta = 25°C)

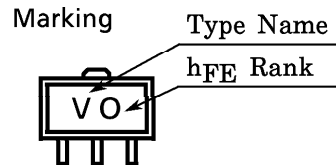
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	45	V
Emitter-Base Voltage	V_{EBO}	5	V
Continuous Collector Current	I_C	200	mA
Continuous Base Current	I_B	50	mA
Collector Power Dissipation	P_C	500	mW
	P_C (Note)	1000	
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

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

Unit in mm



Weight : 0.05g



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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT				
Collector Cut-off Current	ICBO	V _{CB} = 45V, I _E = 0	—	—	0.1	μA				
Emitter Cut-off Current	IEBO	V _{EB} = 5V, I _C = 0	—	—	0.1	μA				
DC Current Gain	h _{FE} (1) (Note)	V _{CE} = 1V, I _C = 10mA	40	—	240					
	h _{FE} (2)	V _{CE} = 3V, I _C = 200mA	20	—	—					
Collector-Emitter Saturation Voltage	V _{CE} (sat)	I _C = 100mA, I _B = 10mA	—	—	0.3	V				
Base-Emitter Saturation Voltage	V _{BE} (sat)	I _C = 100mA, I _B = 10mA	—	—	1.0	V				
Transition Frequency	f _T	V _{CE} = 10V, I _C = 10mA	100	200	—	MHz				
Input Impedance (Real Part)	Re(h _{ie})	V _{CE} = 10V, I _E = -10mA, f = 200MHz	—	—	120	Ω				
Collector Output Capacitance	C _{ob}	V _{CB} = 10V, I _E = 0, f = 1MHz	—	3.5	5.0	pF				
Switching Time	Turn-on Time	t _{on}	<p>INPUT 680Ω OUTPUT 10V 50Ω 50Ω 200Ω 1μs V_{BB} = 3V V_{CC} = 12V DUTY CYCLE ≤ 2%</p>				—	30	—	ns
	Storage Time	t _{stg}					—	250	—	
	Fall Time	t _f					—	30	—	

Note : h_{FE}(1) Classification R : 40~80, O : 70~140, Y : 120~240

