

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE

# 2SA1802

STROBE FLASH APPLICATIONS  
MEDIUM POWER AMPLIFIER APPLICATIONS

- Excellent  $h_{FE}$  Linearity  
:  $h_{FE}(1) = 200 \sim 600$  ( $V_{CE} = -2V, I_C = -0.5A$ )  
:  $h_{FE}(2) = 140$  (Min.) ( $V_{CE} = -2V, I_C = -3A$ )
- Low Collector Saturation Voltage  
:  $V_{CE(sat)} = -0.5V$  (Max.) ( $I_C = -3A, I_B = -60mA$ )
- Surface Mount Package : Lead Bending Type 2-7B2A
- Complementary to 2SC4681

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

CHARACTERISTIC	SYMBOL	RATING	UNIT	
Collector-Base Voltage	$V_{CBO}$	-30	V	
Collector-Emitter Voltage	$V_{CES}$	-30	V	
	$V_{CEO}$	-10		
Emitter-Base Voltage	$V_{EBO}$	-6	V	
Collector Current	DC $I_C$	-3	A	
	Pulsed (Note 1) $I_{CP}$	-6		
Base Current	$I_B$	-0.5	A	
Collector Power Dissipation	$P_C$	$T_a = 25^\circ C$	1.0	W
		$T_c = 25^\circ C$	10	
Junction Temperature	$T_j$	150	$^\circ C$	
Storage Temperature Range	$T_{stg}$	-55~150	$^\circ C$	

(Note 1) : Pulse Test : Pulse Width = 10 ms (Max.)  
Duty Cycle = 30% (Max.)

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = -30V, I_E = 0$	—	—	-100	nA
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = -6V, I_C = 0$	—	—	-100	nA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -10mA, I_B = 0$	-10	—	—	V
DC Current Gain	$h_{FE}(1)$	$V_{CE} = -2V, I_C = -0.5A$	200	—	600	
	$h_{FE}(2)$	$V_{CE} = -2V, I_C = -3A$	140	200	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -3A, I_B = -60mA$	—	-0.25	-0.50	V
Base-Emitter Voltage	$V_{BE}$	$V_{CE} = -2V, I_C = -3A$	—	-0.86	-1.2	V
Transition Frequency	$f_T$	$V_{CE} = -2V, I_C = -0.5A$	—	180	—	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB} = -10V, I_E = 0, f = 1MHz$	—	50	—	pF

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Unit in mm

