

SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

# 2SC108A 2SC109A

9097250 TOSHIBA (DISCRETE/OPTO)

56C 07406

D T-31-23

Unit in mm

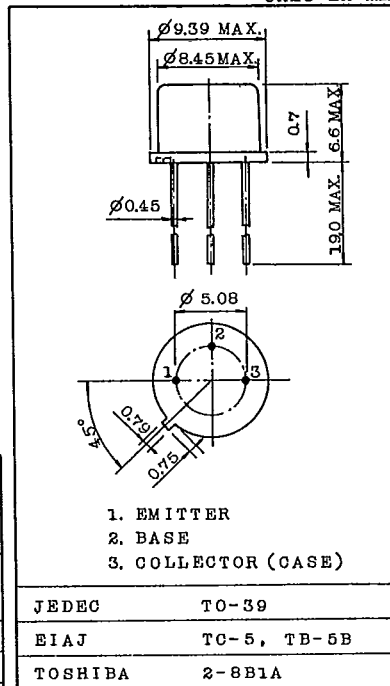
HIGH FREQUENCY AMPLIFIER APPLICATIONS.  
HIGH SPEED SWITCHING APPLICATIONS.

**FEATURES:**

- . High Switching Speed:  $t_{stg}=60\text{nS}$  (Typ.)
- . High Transition Frequency:  $f_T = 150\text{MHz}$  (Typ.)
- . High Breakdown Voltage  
:  $V_{CBO}=90\text{V}$  (2SC108A)
- . Low Collector Saturation Voltage  
:  $V_{CE(sat)}=0.4\text{V(Max.)}$  at  $I_C=200\text{mA}$ ,  $I_B=20\text{mA}$

**MAXIMUM RATINGS (Ta=25°C)**

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	2SC108A	90	v
	2SC109A	70	
Collector-Emitter Voltage	2SC108A	70	v
	2SC109A	50	
Emitter-Base Voltage	VEBO	5	v
Collector Current	IC	800	mA
Base Current	IB	100	mA
Collector Power Dissipation	PC	800	mW
Junction Temperature	Tj	175	°C
Storage Temperature Range	Tstg	-65~175	°C



Weight : 1.14g

**ELECTRICAL CHARACTERISTICS (Ta=25°C)**

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	2SC108A	ICBO VCB=80V, IE=0	-	-	0.5	µA
	2SC109A					
Emitter Cut-off Current	IEBO	VEB=5V, IC=0	-	-	1.0	µA
DC Current Gain	hFE (Note)	VCE=2V, IC=200mA	40	-	240	
Saturation Voltage	Collector-Emitter	VCE(sat) IC=200mA, IB=20mA	-	0.2	0.4	v
	Base-Emitter					
Transition Frequency	fT	VCE=10V, IC=10mA	100	150	-	MHz
Collector Output Capacitance	Cob	VCB=10V, IE=0, f=1MHz	-	9	15	pF
Switching Time	Turn-on Time	ton	-	30	70	ns
	Storage Time	tstg	-	60	80	
	Fall Time	tf	-	20	40	

Note : hFE Classification R : 40 ~ 80, O : 70 ~ 140, Y : 120 ~ 240

TOSHIBA CORPORATION