

9097250 TOSHIBA (DISCRETE/OPTO)

56C 07945

D T-33-09

**2SD1408**

SILICON NPN TRIPLE DIFFUSED TYPE

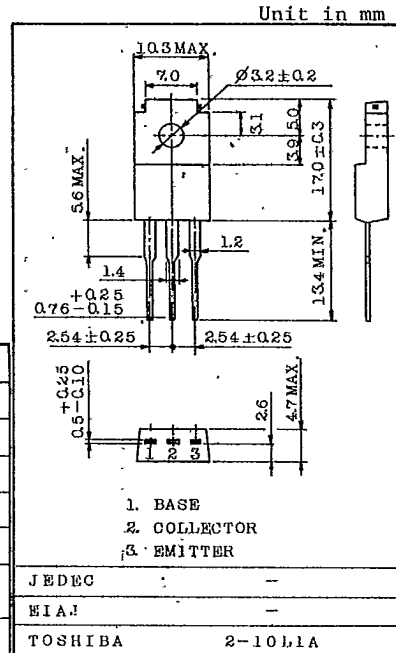
## POWER AMPLIFIER APPLICATIONS.

## FEATURES:

- High Power Dissipation :  $P_C=25W$  ( $T_c=25^\circ C$ )
- Good Linearity of  $h_{FE}$
- Complementary to 2SB1017
- Recommended for 20~25W High Fidelity Audio Frequency Amplifier Output Stage.

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CB0}$	80	V
Collector-Emitter Voltage	$V_{CE0}$	80	V
Emitter-Base Voltage	$V_{EB0}$	5	V
Collector Current	$I_C$	4	A
Base Current	$I_B$	0.4	A
Collector Power Dissipation ( $T_c=25^\circ C$ )	$P_C$	25	W
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature Range	$T_{stg}$	-55~150	$^\circ C$

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CB0}$	$V_{CB}=80V, I_E=0$	-	-	30	$\mu A$
Emitter Cut-off Current	$I_{EB0}$	$V_{EB}=5V, I_C=0$	-	-	100	$\mu A$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=50mA, I_B=0$	80	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10mA, I_C=0$	5	-	-	V
DC Current Gain	$h_{FE(1)}$ (Note)	$V_{CE}=5V, I_C=0.5A$	40	-	240	
		$V_{CE}=5V, I_C=3A$	15	50	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=3A, I_B=0.3A$	-	0.45	1.5	V
Base-Emitter Voltage	$V_{BE}$	$V_{CE}=5V, I_C=3A$	-	1.0	1.5	V
Transition Frequency	$f_T$	$V_{CE}=5V, I_C=0.5A$	-	8.0	-	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB}=10V, I_E=0, f=1MHz$	-	90	-	pF

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

TOSHIBA CORPORATION

