

2SD1406

SILICON NPN TRIPLE DIFFUSED TYPE

AUDIO FREQUENCY POWER AMPLIFIER APPLICATIONS.

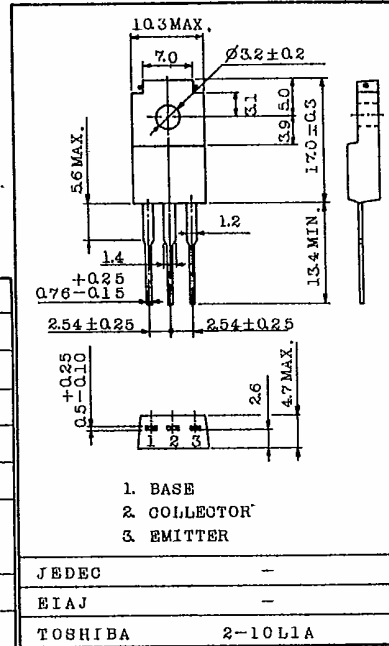
Unit in mm

FEATURES:

- High DC Current Gain : $h_{FE}=300(\text{Max.})(V_{CE}=5V, I_C=0.5A)$
- Low Saturation Voltage
: $V_{CE(\text{sat})}=1.0V(\text{Max.})(I_C=3A, I_B=0.3A)$
- High Power Dissipation : $P_C=25W (T_c=25^\circ\text{C})$
- Complementary to 2SB1015

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

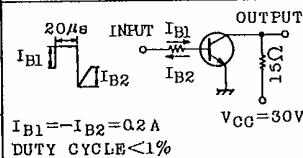
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CB0}	60	V
Collector-Emitter Voltage	V_{CE0}	60	V
Emitter-Base Voltage	V_{EB0}	7	V
Collector Current	I_C	3	A
Base Current	I_B	0.5	A
Collector Power Dissipation	P_C	$T_a=25^\circ\text{C}$	2.0
		$T_c=25^\circ\text{C}$	25
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 ~ 150	$^\circ\text{C}$



Weight : 2.1g

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CB0}	$V_{CB}=60V, I_E=0$	-	-	100	μA
Emitter Cut-off Current	I_{EB0}	$V_{EB}=7V, I_C=0$	-	-	100	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=50\text{mA}, I_B=0$	60	-	-	V
DC Current Gain	$h_{FE}(\text{Note})$	$V_{CE}=5V, I_C=0.5A$	60	-	300	-
Collector Emitter Saturation Voltage	$V_{CE(\text{sat})}$	$I_C=3A, I_B=0.3A$	-	0.25	1.0	V
Base-Emitter Voltage	V_{BE}	$V_{CE}=5V, I_C=0.5A$	-	0.7	1.0	V
Transition Frequency	f_T	$V_{CE}=5V, I_C=0.5A$	-	3.0	-	MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1\text{MHz}$	-	70	-	pF
Switching Time	Turn-on Time	t_{on}	-	0.8	-	μs
	Storage Time	t_{stg}	-	1.5	-	
	Fall Time	t_f	-	0.8	-	



Note : h_{FE} Classification O : 60 ~ 120, Y : 100 ~ 200, GR : 150 ~ 300

TOSHIBA CORPORATION

