

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

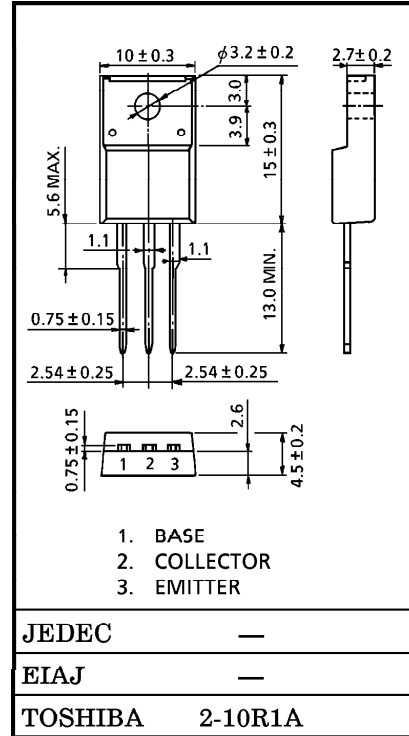
# 2SD1407A

POWER AMPLIFIER APPLICATIONS

- High Breakdown Voltage :  $V_{CEO} = 100V$
- Low Collector Saturation Voltage :  $V_{CE(sat)} = 2.0V$  (Max.)
- Complementary to 2SB1016A

INDUSTRIAL APPLICATIONS

Unit in mm



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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	100	V
Collector-Emitter Voltage	$V_{CEO}$	100	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	5	A
Base Current	$I_B$	0.5	A
Collector Power Dissipation ( $T_c = 25^\circ C$ )	$P_C$	30	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	$I_{CBO}$	$V_{CB} = 100V, I_E = 0$	—	—	100	$\mu A$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 5V, I_C = 0$	—	—	1	mA
Collector-Emitter Breakdown Voltage	$V(BR)_{CEO}$	$I_C = 50mA, I_B = 0$	100	—	—	V
DC Current Gain	$h_{FE(1)}$ (Note)	$V_{CE} = 5V, I_C = 1A$	40	—	240	
	$h_{FE(2)}$	$V_{CE} = 5V, I_C = 4A$	20	—	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 4A, I_B = 0.4A$	—	—	2.0	V
Base-Emitter Saturation Voltage	$V_{BE}$	$V_{CE} = 5V, I_C = 1A$	—	—	1.5	V
Transition Frequency	$f_T$	$V_{CE} = 5V, I_C = 1A$	—	12	—	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB} = 10V, I_E = 0, f = 1MHz$	—	100	—	pF

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

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