

TOSHIBA TRANSISTOR
SILICON NPN EPITAXIAL TYPE (PCT PROCESS)
2SC2238B

T 33-09

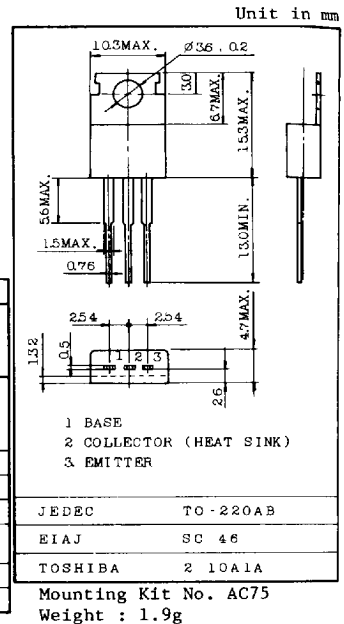
TOSHIBA (DISCRETE/OPTO)

POWER AMPLIFIER APPLICATIONS.
 DRIVER STAGE AMPLIFIER APPLICATIONS.
 FEATURES:

- High Transition Frequency : $f_T=100\text{MHz}$ (Typ.)
- Complementary to 2SA968B.

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CB0}	200	V
Collector-Emitter Voltage	V_{CEO}	200	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	1.5	A
Emitter Current	I_E	-1.5	A
Collector Power Dissipation ($T_c=25^\circ\text{C}$)	P_C	25	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55~150	$^\circ\text{C}$

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CB0}	$V_{CB}=160\text{V}, I_E=0$	-	-	1.0	μA
Emitter Cut-off Current	I_{EB0}	$V_{EB}=5\text{V}, I_C=0$	-	-	1.0	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}, I_B=0$	200	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1\text{mA}, I_C=0$	5	-	-	V
DC Current Gain	h_{FE} (Note)	$V_{CE}=5\text{V}, I_C=100\text{mA}$	70	-	240	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}$	-	-	1.5	V
Base-Emitter Voltage	V_{BE}	$V_{CE}=5\text{V}, I_C=500\text{mA}$	-	-	1.0	V
Transition Frequency	f_T	$V_{CE}=10\text{V}, I_C=100\text{mA}$	-	100	-	MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$	-	25	-	pF

Note : h_{FE} Classification 0 : 70~140, Y : 120~240

