

9097250 TOSHIBA (DISCRETE/OPTO)

**SILICON NPN EPITAXIAL TYPE (PCT PROCESS)
(DARLINGTON POWER)**

56C 07974 D T-33-07

2SD1438

MICRO MOTOR DRIVE, HAMMER DRIVE APPLICATIONS.
SWITCHING APPLICATIONS.
POWER AMPLIFIER APPLICATIONS.

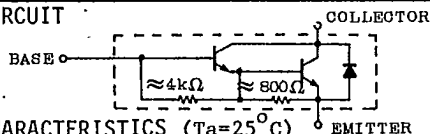
FEATURES:

- . High DC Current Gain
: $h_{FE}=2000(\text{Min.})$ ($V_{CE}=2V$, $I_C=1A$)
- . Low Saturation Voltage
: $V_{CE}(\text{sat})=1.5V(\text{Max.})$ ($I_C=1A$, $I_B=1mA$)

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V _{CB0}	80	V
Collector-Emitter Voltage	V _{CE0}	80	V
Emitter-Base Voltage	V _{EB0}	8	V
Collector Current	I _C	2	A
Base Current	I _B	0.5	A
Collector Power Dissipation (T _c =25°C)	P _C	15	W
Junction Temperature	T _j	150	°C
Storage Temperature Range	T _{stg}	-55 ~ 150	°C

EQUIVALENT CIRCUIT

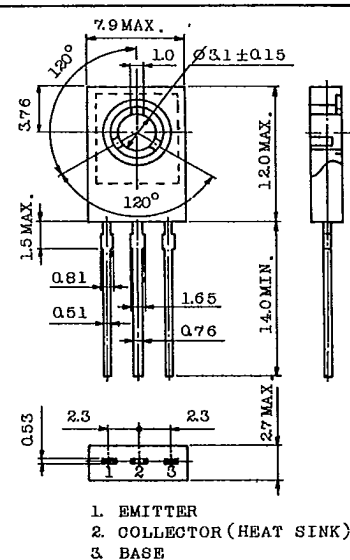


ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB}=80V, I_E=0$	-	-	10	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB}=8V, I_C=0$	-	-	4	mA
Collector-Emitter Breakdown Voltage		$V(BR)_{CEO}$	$I_C=10mA, I_B=0$	80	-	-	V
DC Current Gain		h_{FE}	$V_{CE}=2V, I_C=1A$	2000	-	-	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C=1A, I_B=1mA$	-	-	1.5	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C=1A, I_B=1mA$	-	-	2.0	V
Transition Frequency		f_T	$V_{CE}=2V, I_C=0.5A$	-	100	-	MHz
Collector Output Capacitance		C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$	-	20	-	pF
Switching Time	Turn-on Time	t_{on}	I_{B1} $20\mu s$ INPUT I_{B1} I_{B2} OUTPUT $V_{CC}=30V$ $I_{B1}=-I_{B2}=1mA$ DUTY CYCLE $\leq 1\%$	-	0.4	-	μs
	Storage Time	t_{stg}		-	4.0	-	
	Fall Time	t_f		-	0.6	-	

INDUSTRIAL APPLICATIONS

Unit in mm



JEDEC TO-126

EIAJ

TOSHIBA

TO-126

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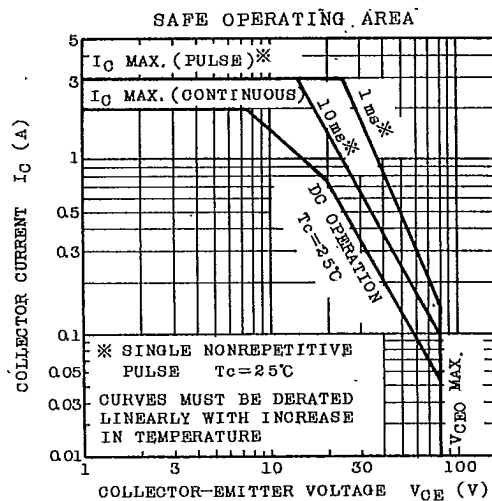
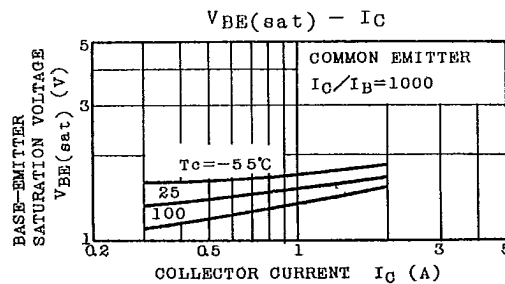
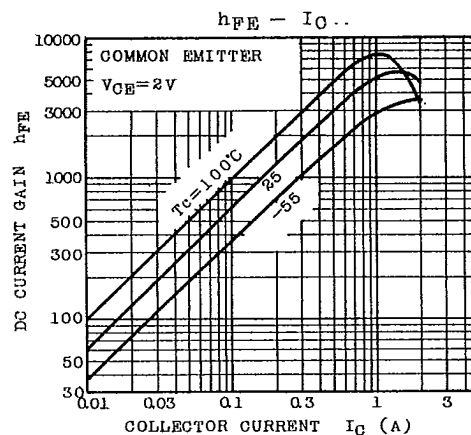
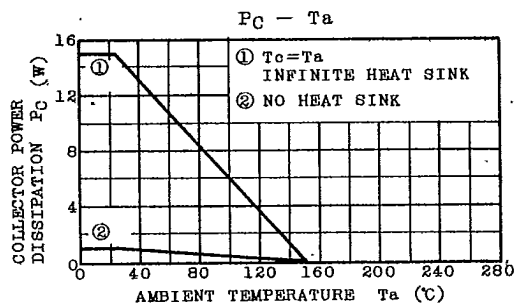
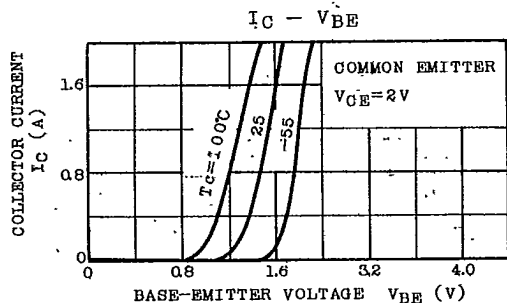
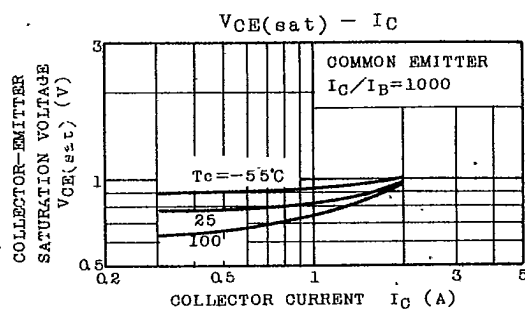
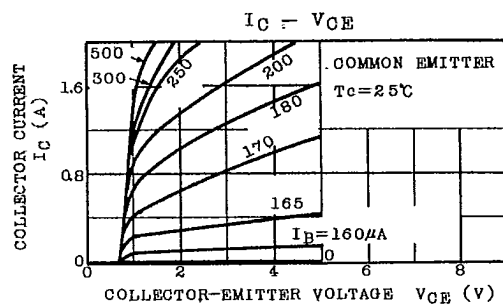
Mounting Kit No. AC46C

Weight : 0.72g

||| TOSHIBA CORPORATION

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