

9097250 TOSHIBA (DISCRETE/OPTO)

56C 07763 D T-33-29

# 2SD687

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

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

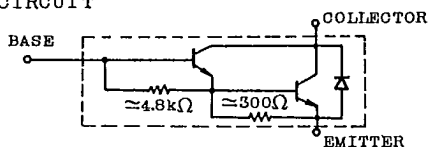
**FEATURES :**

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

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

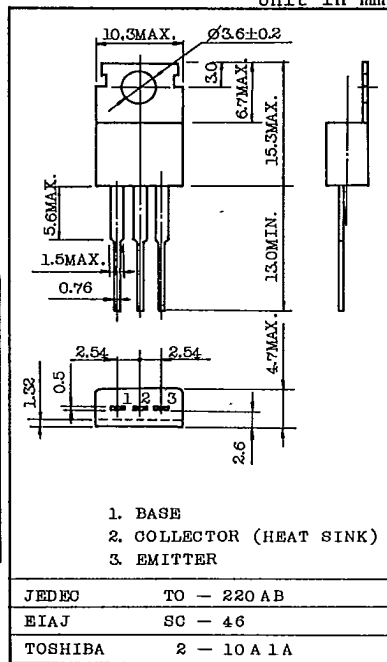
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	60	V
Collector-Emitter Voltage	$V_{CEO}$	40	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Continuous Collector Current	$I_C$	3	A
Collector Power Dissipation ( $T_c=25^\circ C$ )	$P_C$	25	W
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature Range	$T_{stg}$	-55~150	$^\circ C$

**EQUIVALENT CIRCUIT**



**INDUSTRIAL APPLICATIONS**

Unit in mm



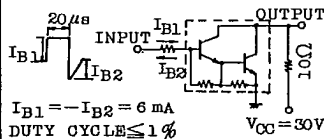
1. BASE
2. COLLECTOR (HEAT SINK)
3. EMITTER

JEDEC	TO - 220 AB
EIAJ	SC - 46
TOSHIBA	2 - 10A 1A

Mounting Kit No. AC75  
Weight : 1.9g

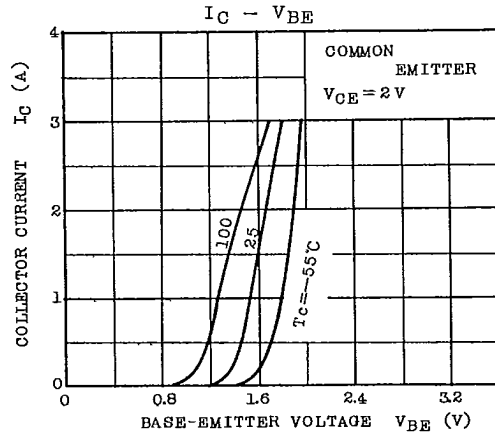
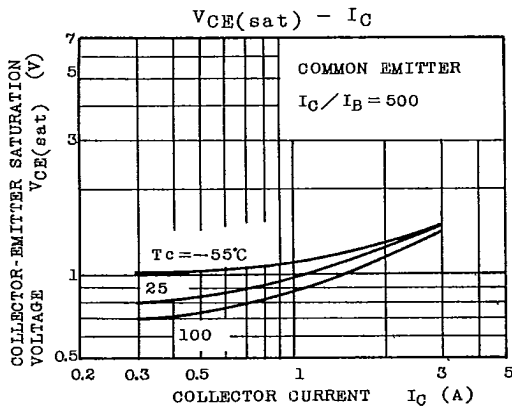
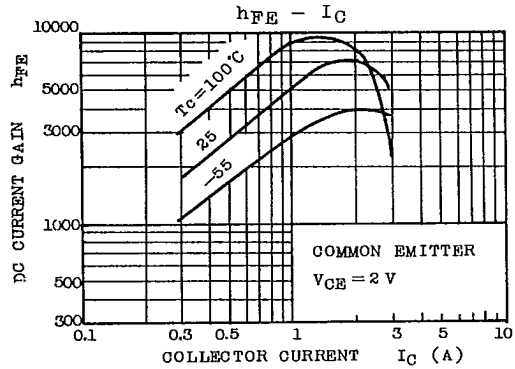
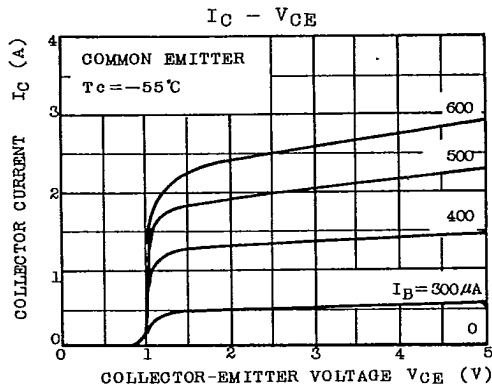
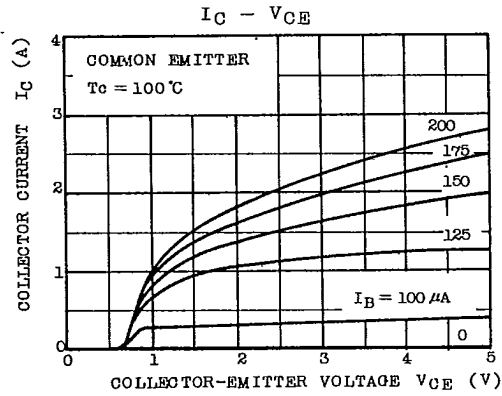
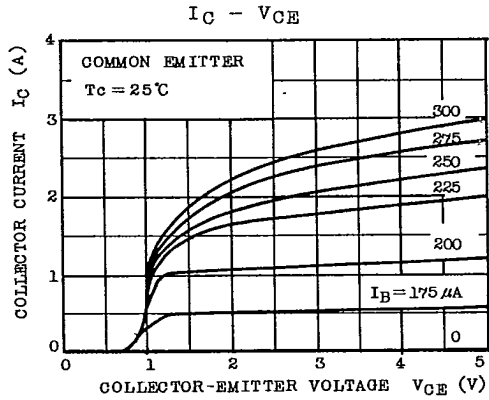
**ELECTRICAL CHARACTERISTICS** ( $T_a=25^\circ C$ )

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=60V, I_E=0$	-	-	20	$\mu A$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=5V, I_C=0$	-	-	2.5	mA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=25mA, I_B=0$	40	-	-	V
DC Current Gain	$h_{FE(1)}$	$V_{CE}=2V, I_C=1A$	2000	-	-	
	$h_{FE(2)}$	$V_{CE}=2V, I_C=3A$	1000	-	-	
Saturation Voltage	Collector-Emitter	$V_{CE(sat)}$	-	-	1.5	V
	Base-Emitter	$V_{BE(sat)}$	-	-	2.0	
Switching Time	Turn-on Time	$t_{on}$	-	0.1	-	$\mu s$
	Storage Time	$t_{stg}$	-	1.0	-	
	Fall Time	$t_f$	-	0.2	-	



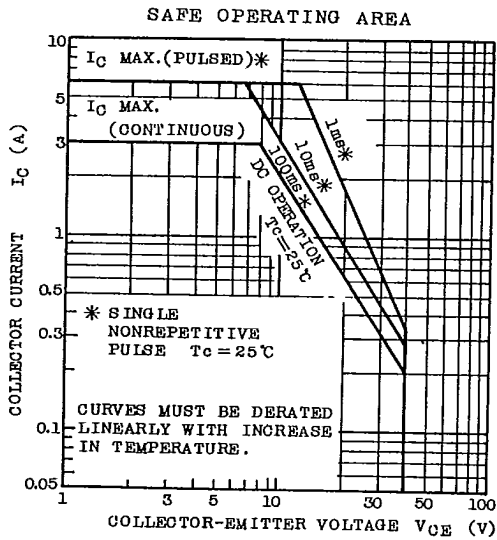
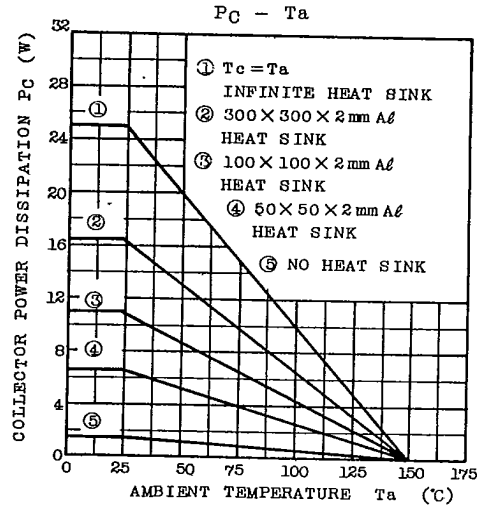
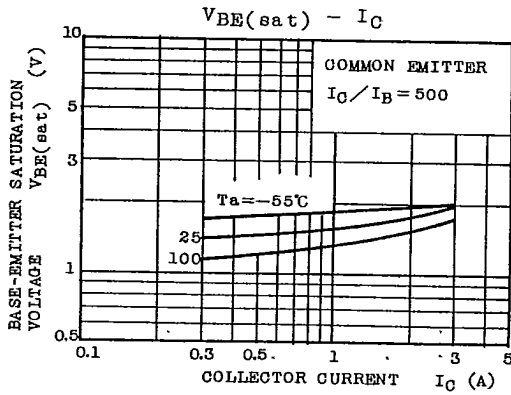
TOSHIBA CORPORATION

**2SD687**



TOSHIBA CORPORATION

**2SD687**



TOSHIBA CORPORATION