2SD689

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

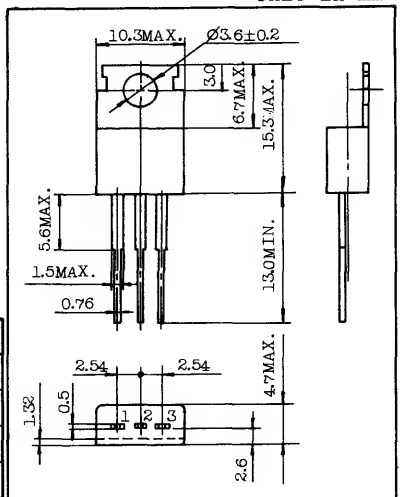
INDUSTRIAL APPLICATIONS

LOW FREQUENCY MEDIUM POWER AMPLIFIER AND MEDIUM SPEED SWITCHING APPLICATIONS.
PULSE MOTOR DRIVE, RELAY DRIVE AND HAMMER DRIVE APPLICATIONS.

FEATURES:

- High DC Current Gain : h_{FE}=1000(Min.)(V_{CE}=2V, I_C=1A)
- Low Saturation Voltage : $V_{CE(sat)}$=1.5V(Max.)(I_C=1A)
- Complementary to 2SB679.

Unit in mm



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

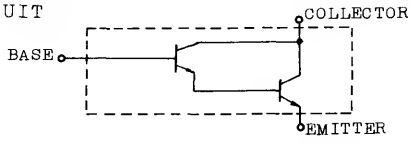
JEDEC	TO — 220 AB
EIAJ	SC — 46
TOSHIBA	2 — 10A1A

Mounting Kit No. AC75
Weight : 1.9g

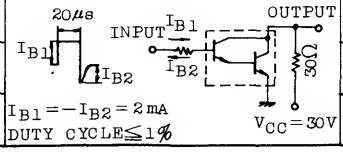
MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CEO}	100	V
Emitter-Base Voltage	V_{EBO}	10	V
Continuous Collector Current	I_C	1.5	A
Collector Power Dissipation (Tc=25°C)	P_C	10	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

EQUIVALENT CIRCUIT



ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB}=100V, I_E=0	-	-	10	μA
Emitter Cut-off Current		I_{EBO}	V_{EB}=10V, I_C=0	-	-	10	μA
Breakdown Voltage	Collector-Emitter	$V_{(BR)CEO}$	I_C=10mA, I_B=0	100	-	-	V
	Emitter-Base	$V_{(BR)EBO}$	I_E=5mA, I_C=0	10	-	-	V
DC Current Gain		h_{FE}	V_{CE}=2V, I_C=0.1A	2000	-	-	
			V_{CE}=2V, I_C=1A	1000	-	-	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	I_C=1A, I_B=2mA	-	-	1.5	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	I_C=1A, I_B=2mA	-	-	2.5	V
Switching Time	Turn-on Time	t_{on}		-	0.3	-	μs
	Storage Time	t_{stg}		-	2.0	-	
	Fall Time	t_f		-	0.7	-	