2SD684

SILICON NPN TRIPLE DIFFUSED TYPE
(DARLINGTON POWER)

IGNITER APPLICATIONS.

HIGH VOLTAGE SWITCHING APPLICATIONS.

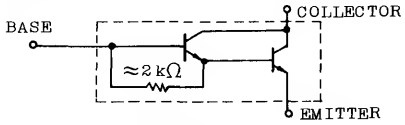
FEATURES:

- High DC Current Gain
  : h_{FE}=1500 (Min.) (V_{CE}=2V, I_C=2A)

MAXIMUM RATINGS (Ta=25°C)

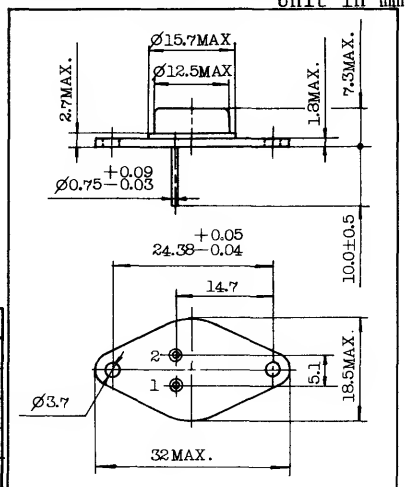
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	600	V
Collector-Emitter Voltage	V_{CEO}	300	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	6	A
Base Current	I_B	1	A
Collector Power Dissipation (Tc=25°C)	P_C	30	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-65∿150	°C

EQUIVALENT CIRCUIT



INDUSTRIAL APPLICATIONS

Unit in mm

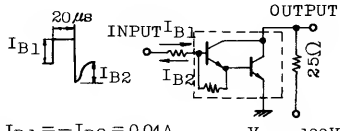


1. BASE
2. EMITTER
COLLECTOR (CASE)

JEDEC	TO — 66
EIAJ	TC — 16A, TB — 23
TOSHIBA	2 — 13A1A

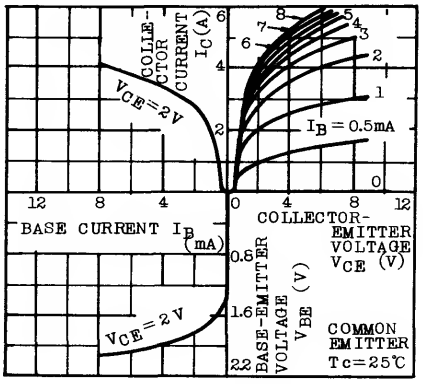
Mounting Kit No. AC74
Weight : 5.9g

ELECTRICAL CHARACTERISTICS (Ta=25°C)

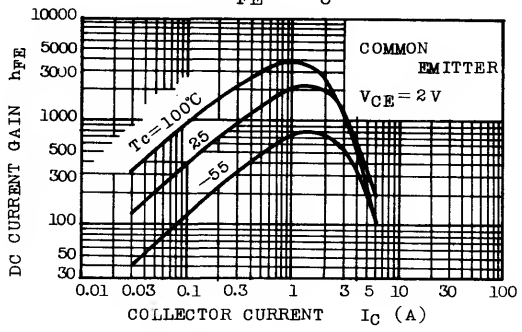
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB}=600V, I_E=0	-	-	0.5	mA
Emitter Cut-off Current		I_{EBO}	V_{EB}=5V, I_C=0	-	-	0.5	mA
Collector-Emitter Sustaining Voltage		$V_{CEO(SUS)}$	I_C=0.5A, L=40mH	300	-	-	V
DC Current Gain		$h_{FE(1)}$	V_{CE}=2V, I_C=2A	1500	-	-	
		$h_{FE(2)}$	V_{CE}=2V I_C=4A	200	-	-	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	I_C=4A, I_B=0.04A	-	-	2.0	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	I_C=4A, I_B=0.04A	-	-	2.5	V
Collector Output Capacitance		C_{ob}	V_{CB}=50V, I_E=0, f=1MHz	-	35	-	pF
Switching Time	Turn-on Time	t_{on}		-	1	-	μs
	Storage Time	t_{stg}		-	8	-	
	Fall Time	t_f		-	5	-	

I_{B1} = −I_{B2} = 0.04A
DUTY CYCLE ≦ 1%
V_{CC} = 100V

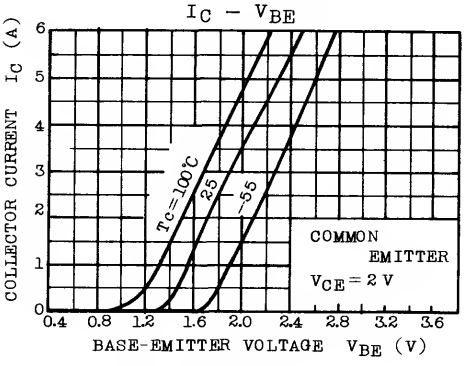
STATIC CHARACTERISTICS



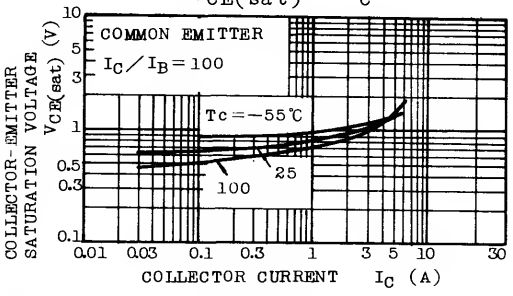
h_{FE} – I_C



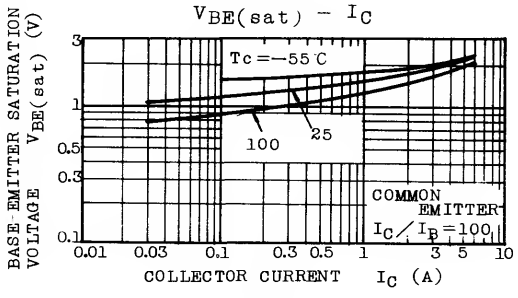
I_C – V_{BE}



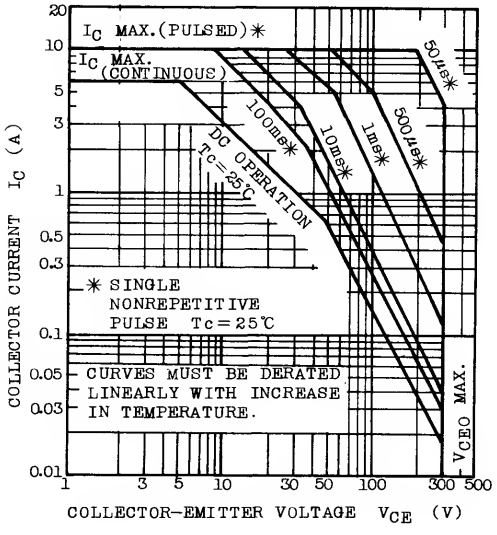
$V_{CE(sat)}$ – I_C



$V_{BE(sat)}$ – I_C



SAFE OPERATING AREA



P_C – Ta