

2SD1087

SILICON NPN TRIPLE DIFFUSED TYPE
(DARLINGTON POWER)

INDUSTRIAL APPLICATIONS

Unit in mm

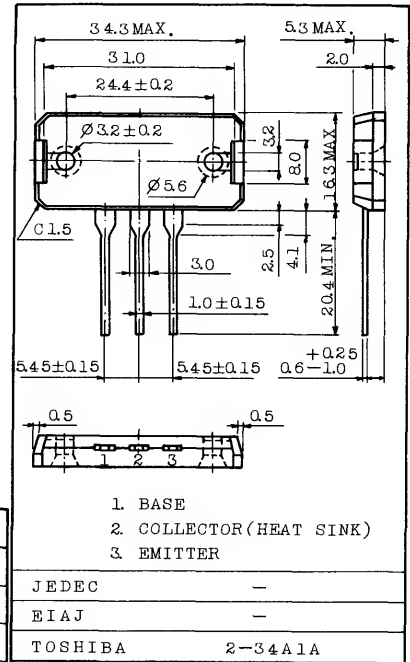
HIGH CURRENT SWITCHING APPLICATIONS.

FEATURES

- High DC Current Gain
: $h_{FE}=1000$ (Min.) ($V_{CE}=3V$, $I_C=15A$)
- Low Collector Saturation Voltage
: $V_{CE(sat)}=1.5V$ (Max.) ($I_C=15A$)
- Monolithic Construction with Built-In Base-Emitter Shunt Resistor.

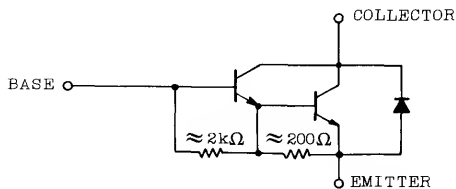
MAXIMUM RATINGS ($T_a=25^{\circ}C$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CEO}	100	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	15	A
Base Current	I_B	1	A
Collector Power Disipation ($T_c=25^{\circ}C$)	P_C	100	W
Junction Temperature	T_j	150	$^{\circ}C$
Storage Temperature Range	T_{stg}	-55 ~ 150	$^{\circ}C$

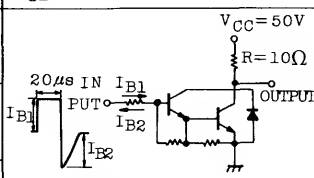


Weight : 10.8g

EQUIVALENT CIRCUIT



ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		ICBO	V _{CB} =100V, I _E =0	-	-	100	μA
Emitter Cut-off Current		IEBO	V _{EB} =5V, I _C =0	-	-	10	mA
Collector-Emitter Breakdown Voltage		V _{(BR)CEO}	I _C =50mA, I _B =0	100	-	-	V
DC Current Gain		h _{FE}	V _{CE} =3V, I _C =15A	1000	-	-	
Collector-Emitter Saturation Voltage		V _{CE(sat)}	I _C =15A, I _B =0.025A	-	-	1.5	V
Base-Emitter Saturation Voltage		V _{BE(sat)}		-	-	2.2	V
Emitter-Collector Forward Voltage		V _{ECF}	I _E =10A, I _B =0	-	-	3	V
Transition Frequency		f _T	V _{CE} =5V, I _C =1A	-	14	-	MHz
Collector Output Capacitance		C _{ob}	V _{CB} =10V, I _E =0, f=1MHz	-	280	-	pF
Switching Time	Turn-on Time	t _{on}	 V_{CC}=50V R=10Ω 20μs IN I_{B1} I_{B2} I_{E2} OUTPUT I_{B1}=-I_{B2}=0.01A DUTY CYCLE ≤ 1%	-	0.7	-	μs
	Storage Time	t _{stg}		-	8	-	
	Fall Time	t _f		-	2.5	-	

