

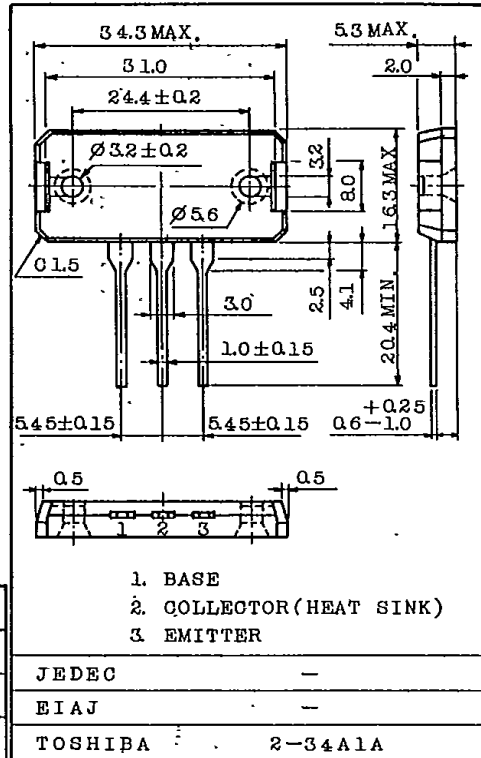
2SD1087

www.DataSheet4U.com

SILICON NPN TRIPLE DIFFUSED TYPE
(DARLINGTON POWER)

INDUSTRIAL APPLICATIONS

Unit in mm



Weight : 10.8g

HIGH CURRENT SWITCHING APPLICATIONS.

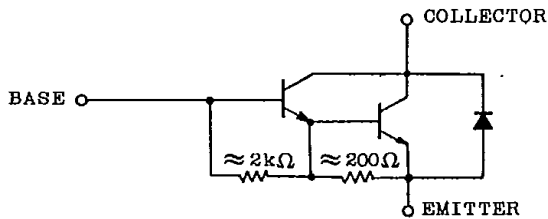
FEATURES

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

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

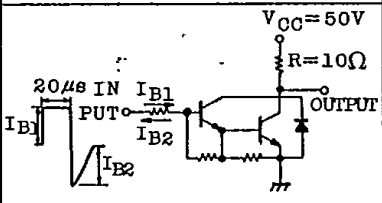
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CEO}	100	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	15	A
Base Current	I_B	1	A
Collector Power Dissipation ($T_c=25^\circ\text{C}$)	P_C	100	W
Junction Temperature	T_j	150	$^\circ\text{C}$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

EQUIVALENT CIRCUIT



TOSHIBA CORPORATION

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}	 <p style="text-align: center;">V_{CC}=50V R=10Ω</p>	-	0.7	-	μs
	Storage Time	t _{stg}		-	8	-	
	Fall Time	t _f		I _{B1} =-I _{B2} =0.01A DUTY CYCLE ≤ 1%	-	2.5	

