

9097250 TOSHIBA (DISCRETE/OPTO)

56C 07811 D T-33-29

2SD842SILICON NPN TRIPLE DIFFUSED TYPE
(DARLINGTON POWER)

Unit in mm

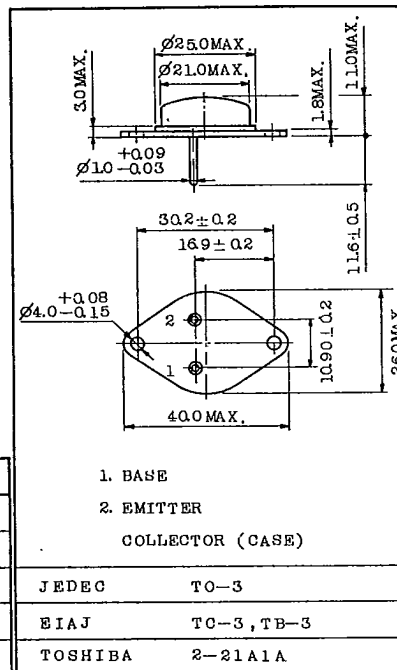
HIGH CURRENT SWITCHING APPLICATIONS.

FEATURES:

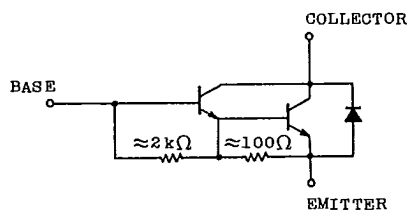
- High Collector Current : $I_C = 30A$
- High DC Current Gain
: $h_{FE}=1000(\text{Min.}), (V_{CE}=5V, I_C=20A)$
- Monolithic Construction with Built-In Base-Emitter Shunt Resistor.

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CB0}	80	V
Collector-Emitter Voltage	V_{CE0}	80	V
Emitter-Base Voltage	V_{EB0}	5	V
Collector Current	I_C	30	A
Base Current	I_B	1	A
Collector Power Dissipation ($T_c=25^\circ\text{C}$)	P_C	150	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65 ~ 150	$^\circ\text{C}$

Mounting kit No. AC73
Weight : 12.9g

EQUIVALENT CIRCUIT



TOSHIBA CORPORATION

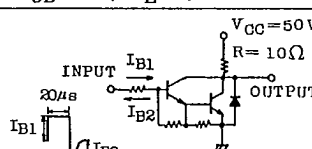
9097250 TOSHIBA (DISCRETE/OPTO)

56C 07812

D T-33-29

2SD842

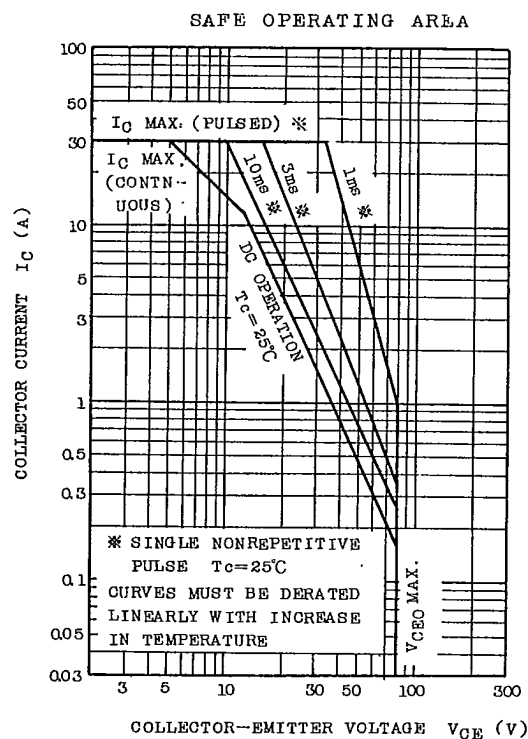
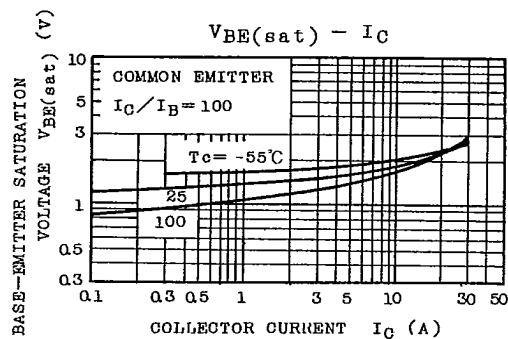
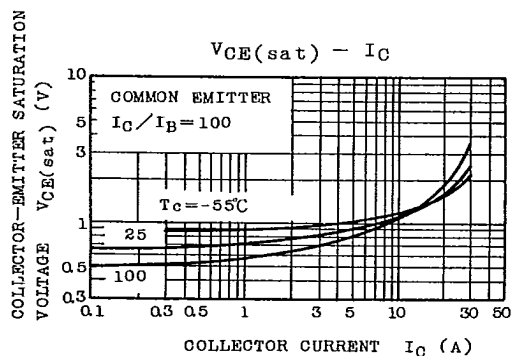
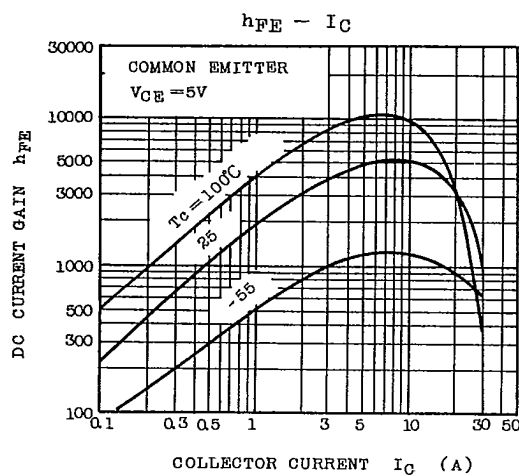
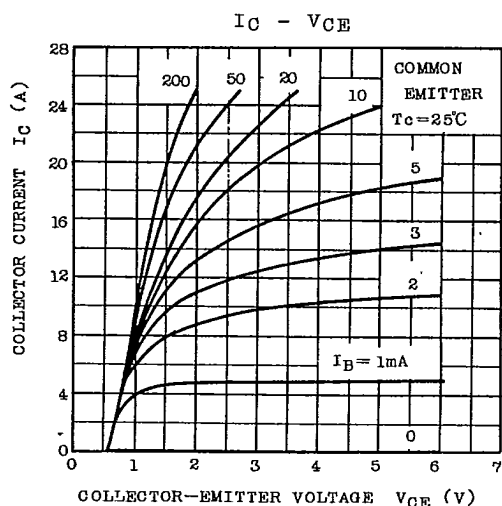
ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		ICBO	V _{CB} =80V, 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	80	-	-	V
DC Current Gain		hFE(1)	V _{CE} =5V, I _C =20A	1000	-	-	
		hFE(2)	V _{CE} =5V, I _C =30A	200	-	-	
Collector-Emitter Saturation Voltage		V _{CE(sat)}	I _C =20A, I _B =0.2A	-	-	3	V
Base-Emitter Saturation Voltage		V _{BE(sat)}		-	-	3.5	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}		-	0.7	-	μs
	Storage Time	t _{stg}		-	8	-	
	Fall Time	t _f		I _{B1} = - I _{B2} =0.01A DUTY CYCLE≤1%	-	2.5	

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