

9097250 TOSHIBA (DISCRETE/OPTO)

56C 07757 D T-33-29

2SD685SILICON NPN TRIPLE DIFFUSED TYPE
(DARLINGTON POWER)

IGNITER APPLICATIONS.

HIGH VOLTAGE AND HIGH POWER SWITCHING APPLICATIONS.

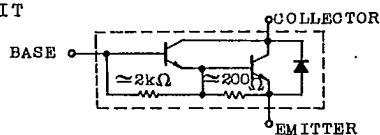
FEATURES :

- High DC Current Gain
: $h_{FE}=400$ (Min.) ($V_{CE}=2V$, $I_C=4A$)
- High Reverse Energy : $E_{S/B}=245mJ$ (Min.)
- Monolithic Construction With Built-In
Base-Emitter Shunt Resistor.

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

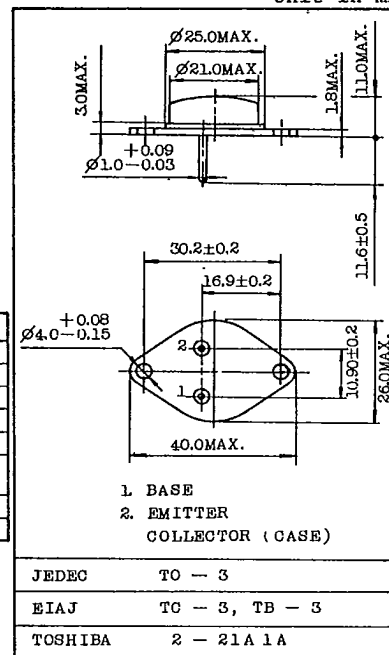
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	600	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	10	A
Base Current	I_B	2	A
Collector Power Dissipation ($T_c=25^\circ C$)	P_C	100	W
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature Range	T_{stg}	-65~150	$^\circ C$

EQUIVALENT CIRCUIT



INDUSTRIAL APPLICATIONS

Unit in mm



Mounting kit No. AC73

Weight : 12.9g

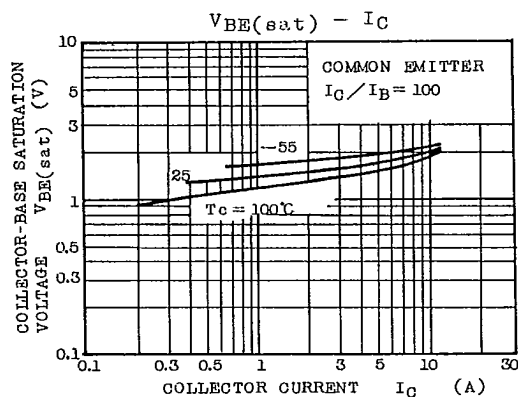
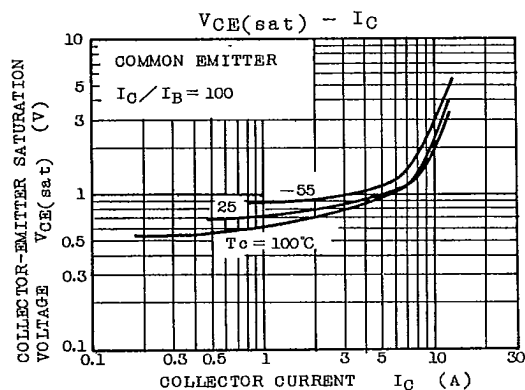
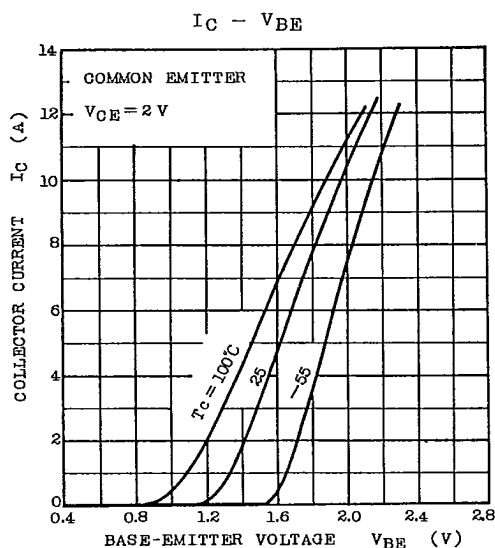
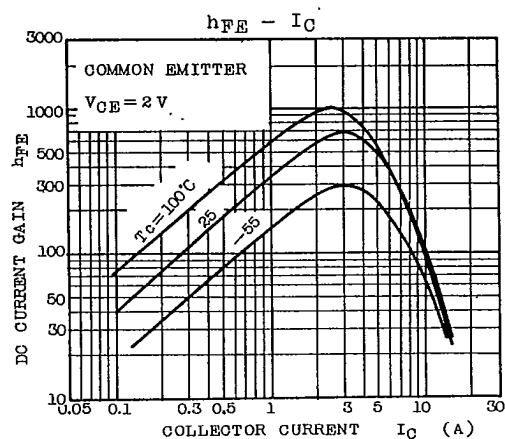
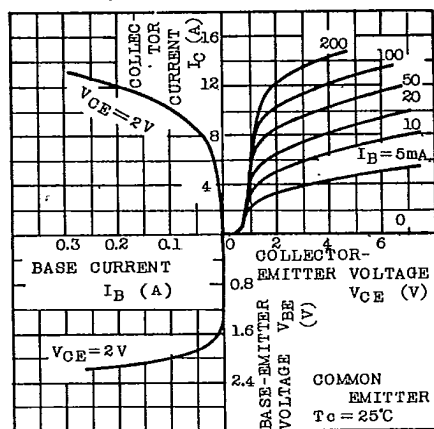
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ C$)

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}	$V_{EB}=5V$, $I_C=0$	-	-	20	mA
Collector-Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_C=6A$, $L=10mH$	400	-	-	V
Reverse Energy	$E_{S/B}$	$L=10mH$, $I_{CP}=7A$ (Note)	245	-	-	mJ
DC Current Gain	$h_{FE}(1)$ $h_{FE}(2)$	$V_{CE}=2V$, $I_C=4A$ $V_{CE}=2V$, $I_C=8A$	400	-	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=8A$, $I_B=0.08A$	-	-	2.0	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=8A$, $I_B=0.08A$	-	-	2.5	V
Emitter-Collector Forward Voltage	V_{ECF}	$I_E=10A$, $I_B=0$	-	-	3.0	V
Collector Output Capacitance	C_{ob}	$V_{CB}=50V$, $I_E=0$, $f=1MHz$	-	90	-	pF
Switching Time	Turn-on Time	t_{on}	-	1.0	-	μs
	Storage Time	t_{stg}	-	12	-	
	Fall Time	t_f	-	5	-	

Note: $E_{S/B}$ is defined as the energy at which second breakdown occurs under the base open circuit. $E_{S/B}=1/2L I_{CP}^2$, Where L is a series load or leakage inductance and

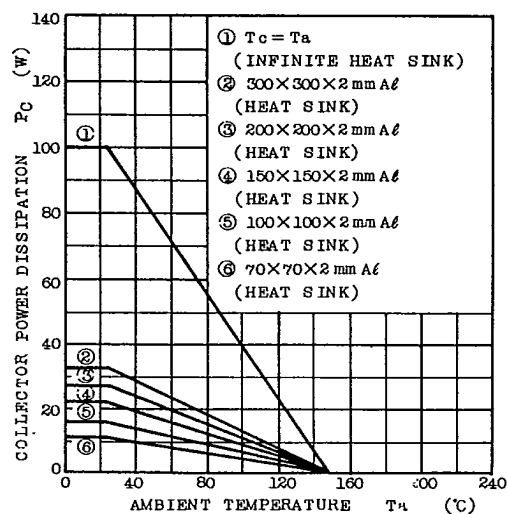
TOSHIBA CORPORATION

STATIC CHARACTERISTICS

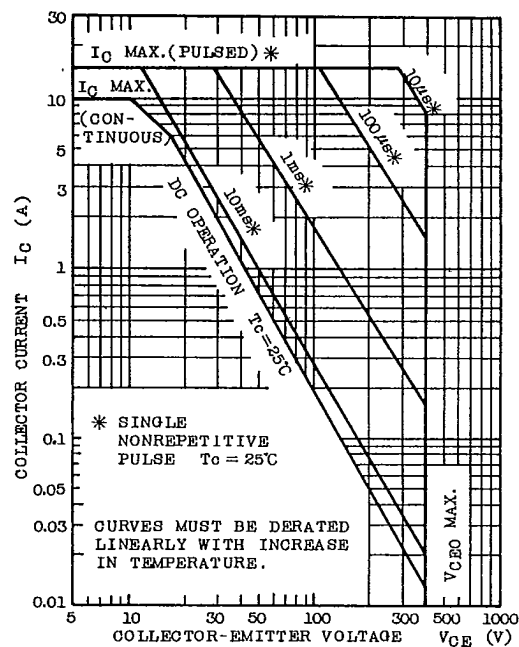


TOSHIBA CORPORATION

T-33-29

$$P_C - T_a$$


SAFE OPERATING AREA



TOSHIBA CORPORATION