

SILICON NPN TRIPLE DIFFUSED TYPE
(DARLINGTON POWER)

2SD1357
2SD1358
2SD1359

9097250 TOSHIBA (DISCRETE/OPTO)

56C 07926 D T-33-29

HIGH POWER SWITCHING APPLICATIONS.
HAMMER DRIVE, PULSE MOTOR DRIVE APPLICATIONS.

INDUSTRIAL APPLICATIONS

Unit in mm

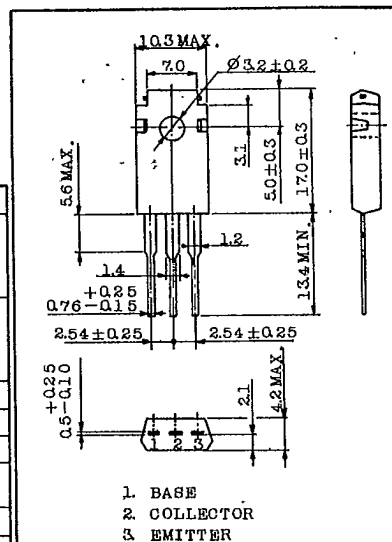
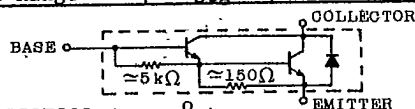
FEATURES:

- High DC Current Gain: $h_{FE}=2000(\text{Min.})$ (at $V_{CE}=3V$, $I_C=3A$)
- Low Saturation Voltage: $V_{CE(sat)}=1.5V(\text{Max.})$ (at $I_C=3A$)
- Complementary to 2SB997, 2SB998, 2SB999

MAXIMUM RATINGS (T_a=25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage	2SD1357	V _{CB0}	100	V
	2SD1358		80	
	2SD1359		60	
Collector-Emitter Voltage	2SD1357	V _{CE0}	100	V
	2SD1358		80	
	2SD1359		60	
Emitter-Base Voltage		V _{EB0}	5	V
Collector Current		I _C	7	A
Base Current		I _B	0.2	A
Collector Power Dissipation (T _c =25°C)		P _C	40	W
Junction Temperature		T _j	150	°C
Storage Temperature Range		T _{stg}	-55 ~ 150	°C

EQUIVALENT CIRCUIT



1. BASE
2. COLLECTOR
3. EMITTER

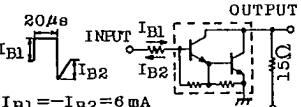
J E D E C

E I A J

TOSHIBA 2-10K1A

Weight : 2.0g

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

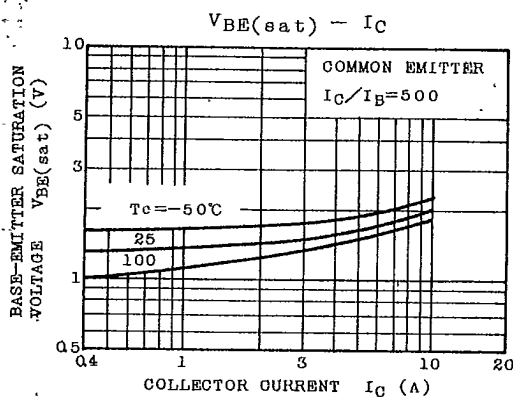
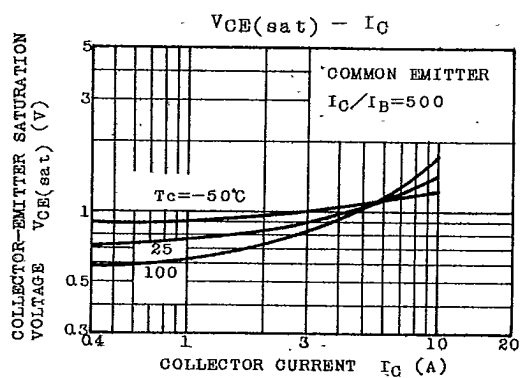
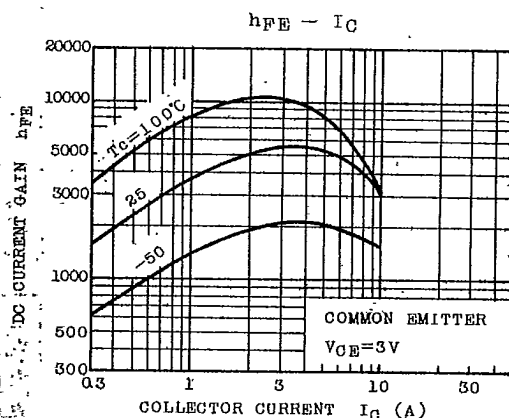
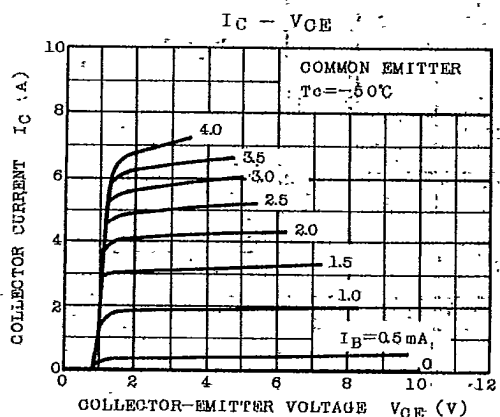
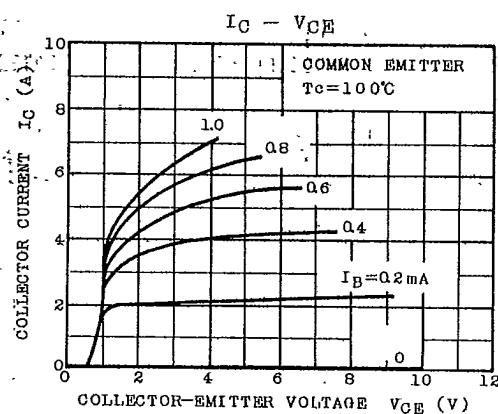
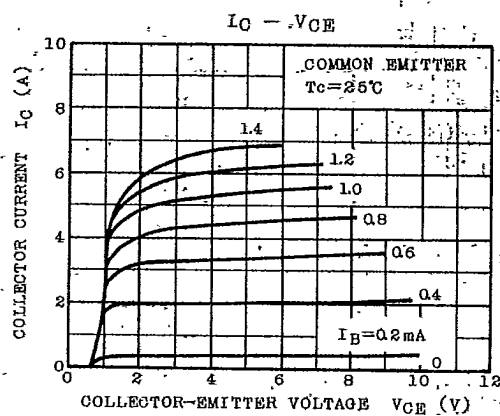
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	2SD1357	ICBO	VCB=100V, IE=0	-	-	100	μ A
	2SD1358		VCB=80V, IE=0	-	-	100	
	2SD1359		VCB=60V, IE=0	-	-	100	
Emitter Cut-off Current		IEBO	VEB=5V, IC=0	-	-	3.0	mA
Collector-Emitter Breakdown Voltage	2SD1357	V(BR)CEO	IC=50mA, IB=0	100	-	-	V
	2SD1358			80	-	-	
	2SD1359			60	-	-	
DC Current Gain		hFE(1)	VCE=3V, IC=3A	2000	-	15000	
		hFE(2)	VCE=3V, IC=7A	1000	-	-	
Collector-Emitter Saturation Voltage		VCE(sat)①	IC=3A, IB=6mA	-	0.9	1.5	V
		VCE(sat)②	IC=7A, IB=14mA	-	1.2	2.0	
Base-Emitter Saturation Voltage		VBE(sat)	IC=3A, IB=6mA	-	1.5	2.5	V
Switching Time	Turn-on Time	ton	 20μs INPUT IB1 IB2 OUTPUT VCE IB1 = -IB2 = 6mA DUTY CYCLE $\leq$ 1% VCC = 45V	-	0.8	-	μ s
	Storage Time	tstg		-	3.0	-	
	Fall Time	tf		-	2.5	-	

TOSHIBA CORPORATION

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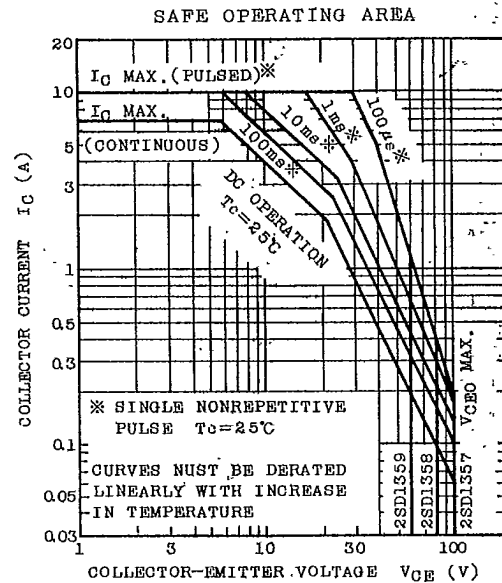
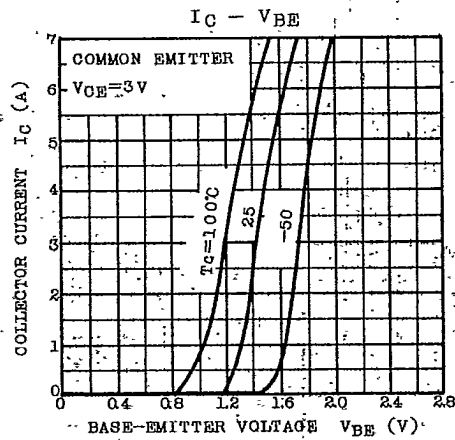
TOSHIBA CORPORATION

9097250 TOSHIBA (DISCRETE/OPTO)

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