

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

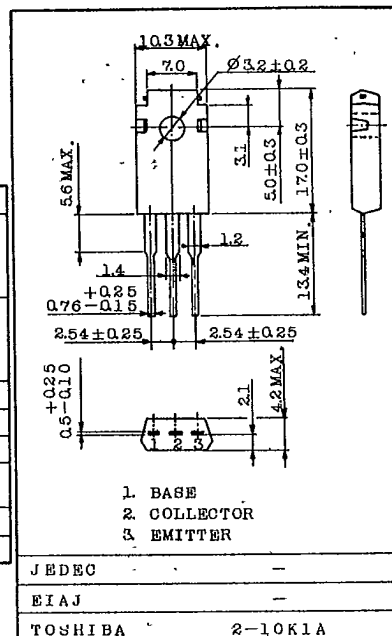
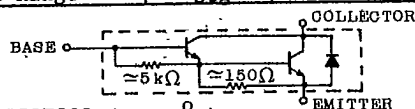
FEATURES:

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

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	2SD1357	100	V
	2SD1358	80	
	2SD1359	60	
Collector-Emitter Voltage	2SD1357	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 ($T_c=25^\circ\text{C}$)	P_C	40	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 ~ 150	$^\circ\text{C}$

EQUIVALENT CIRCUIT



1. BASE
2. COLLECTOR
3. EMITTER

JEDEC

EIAJ

TOSHIBA

2-10K1A

Weight : 2.0g

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

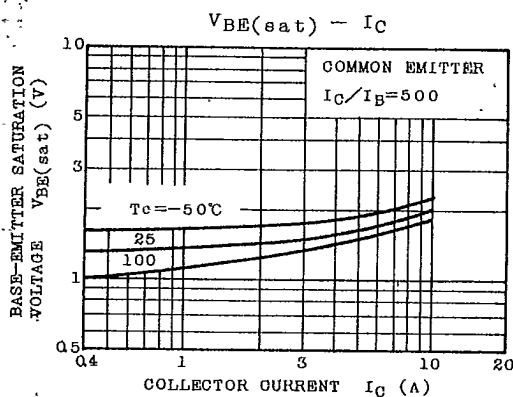
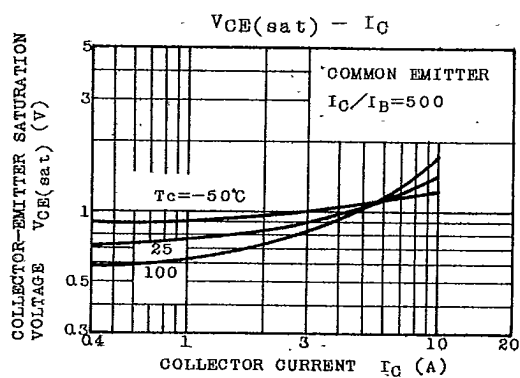
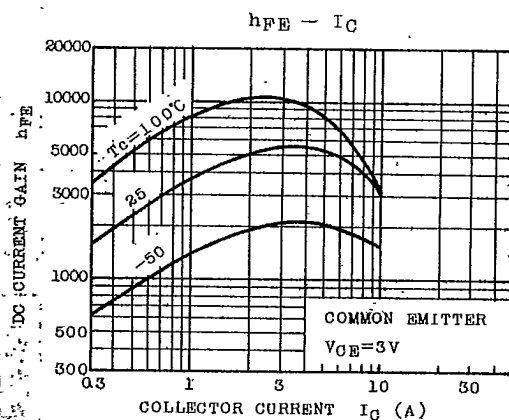
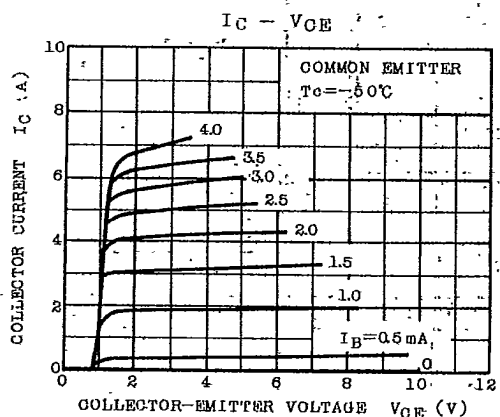
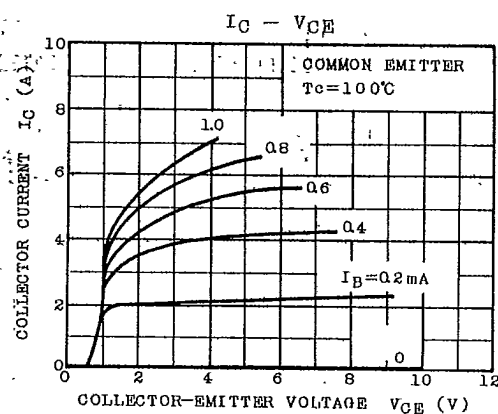
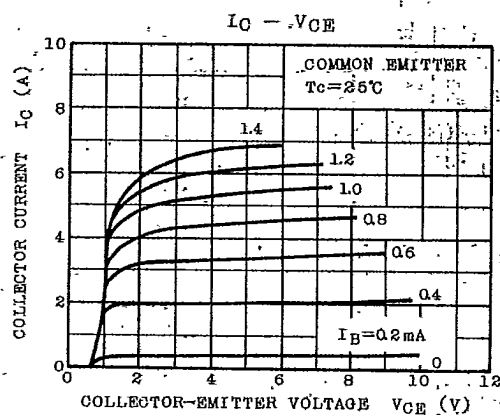
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	2SD1357	$V_{CB}=100V, I_E=0$	-	-	100	μA
	2SD1358	$V_{CB}=80V, I_E=0$	-	-	100	
	2SD1359	$V_{CB}=60V, I_E=0$	-	-	100	
Emitter Cut-off Current	I_{EB0}	$V_{EB}=5V, I_C=0$	-	-	3.0	mA
Collector-Emitter Breakdown Voltage	2SD1357	$I_C=50\text{mA}, I_B=0$	100	-	-	V
	2SD1358		80	-	-	
	2SD1359		60	-	-	
DC Current Gain	$h_{FE}(1)$	$V_{CE}=3V, I_C=3A$	2000	-	15000	
	$h_{FE}(2)$	$V_{CE}=3V, I_C=7A$	1000	-	-	
Collector-Emitter Saturation Voltage	$V_{CE}(\text{sat})(1)$	$I_C=3A, I_B=6\text{mA}$	-	0.9	1.5	V
	$V_{CE}(\text{sat})(2)$	$I_C=7A, I_B=14\text{mA}$	-	1.2	2.0	
Base-Emitter Saturation Voltage	$V_{BE}(\text{sat})$	$I_C=3A, I_B=6\text{mA}$	-	1.5	2.5	V
Switching Time	Turn-on Time		-	0.8	-	μs
	Storage Time		-	3.0	-	
	Fall Time		-	2.5	-	

TOSHIBA CORPORATION

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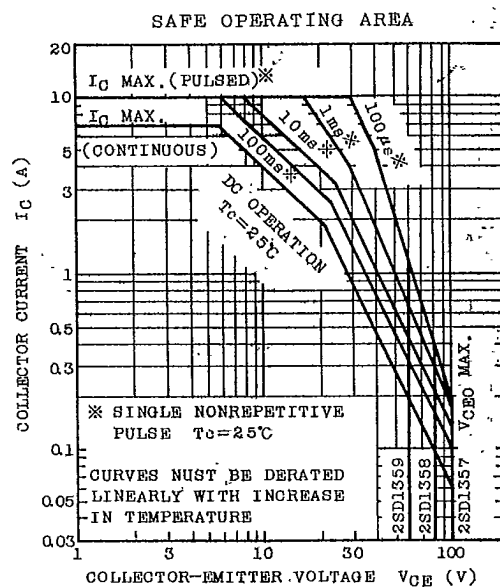
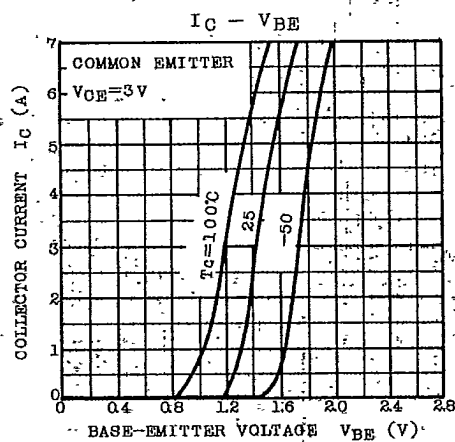
TOSHIBA CORPORATION

9097250 TOSHIBA (DISCRETE/OPTO)

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