2SB997
2SB998
2SB999

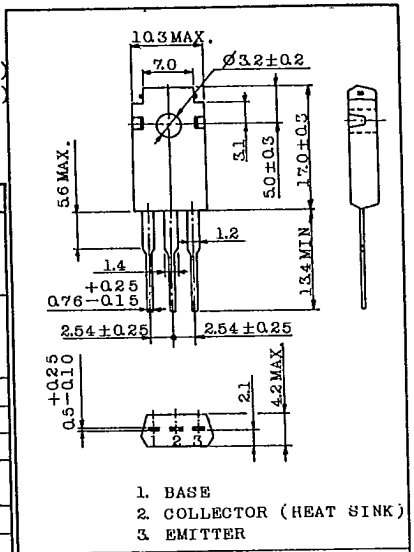
SILICON PNP TRIPLE DIFFUSED TYPE
(DARLINGTON POWER)

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

INDUSTRIAL APPLICATIONS

FEATURES:
. High DC Current Gain : h_{FE}=2000(Min.)(at V_{CE}=-3V, I_C=-3A)
. Low Saturation Voltage : $V_{CE(sat)}$=-1.5V(Max.)(at I_C=-3A)
. Complementary to 2SD1357, 2SD1358 and 2SD1359

Unit in mm



1. BASE
2. COLLECTOR (HEAT SINK)
3. EMITTER

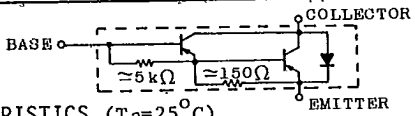
JEDEC	—
EIAJ	—
TOSHIBA	2-10K1A

Weight : 2.0g

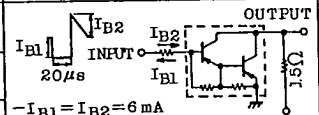
MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage	2SB997	V_{CBO}	-100	V
	2SB998		-80	
	2SB999		-60	
Collector-Emitter Voltage	2SB997	V_{CEO}	-100	V
	2SB998		-80	
	2SB999		-60	
Emitter-Base Voltage		V_{EBO}	-5	V
Collector Current		I_C	-7	A
Base Current		I_B	-0.2	A
Collector Power Dissipation (Tc=25°C)		P_C	40	W
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	-55 ~ 150	°C

EQUIVALENT CIRCUIT

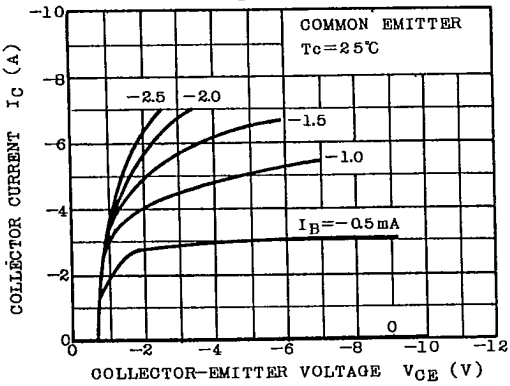


ELECTRICAL CHARACTERISTICS (Ta=25°C)

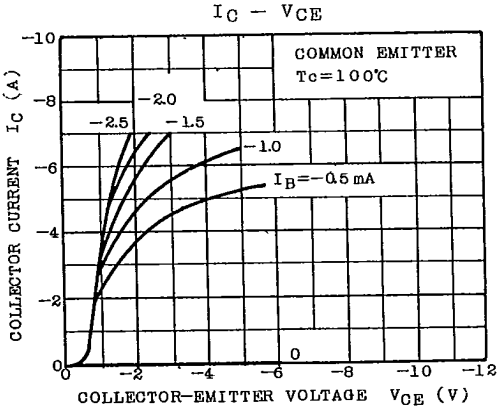
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	2SB997	I_{CBO}	V_{CB}=-100V, I_E=0	-	-	-100	μA
	2SB998		V_{CB}=-80V, I_E=0	-	-	-100	
	2SB999		V_{CB}=-60V, I_E=0	-	-	-100	
Emitter Cut-off Current		I_{EBO}	V_{EB}=-5V, I_C=0	-	-	-4.0	mA
Collector-Emitter Breakdown Voltage	2SB997	$V_{(BR)CEO}$	I_C=-50mA, I_B=0	-100	-	-	V
	2SB998			-80	-	-	
	2SB999			-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		$V_{CE(sat)1}$	I_C=-3A, I_B=-6mA	-	-0.95	-1.5	V
		$V_{CE(sat)2}$	I_C=-7A, I_B=-14mA	-	-1.3	-2.0	
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	I_C=-3A, I_B=-6mA	-	-1.55	-2.5	V
Switching Time	Turn-on Time	t_{on}		-	0.8	-	μs
	Storage Time	t_{stg}		-	2.0	-	
	Fall Time	t_f		-	2.5	-	

$-I_{B1}=I_{B2}=6$ mA
DUTY CYCLE≦1%, V_{CC}=-45V

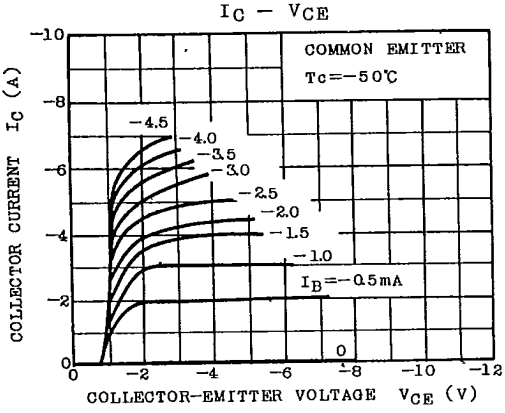
$I_C - V_{CE}$



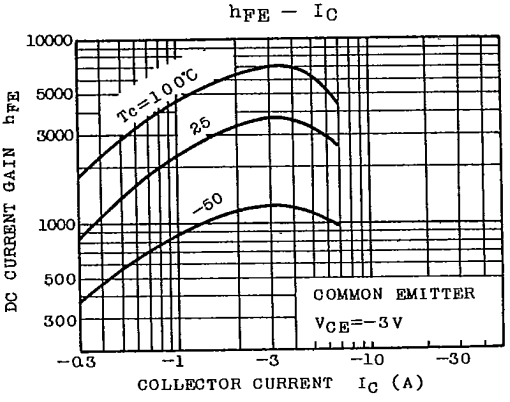
$I_C - V_{CE}$



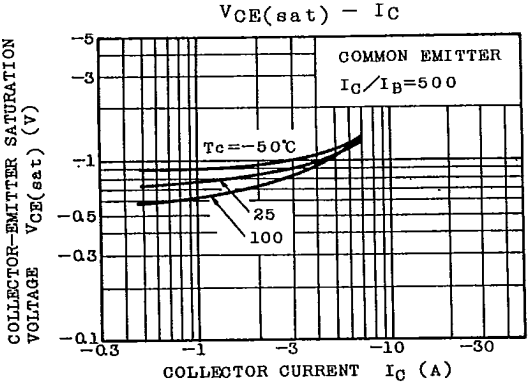
$I_C - V_{CE}$



$h_{FE} - I_C$



$V_{CE(sat)} - I_C$



$V_{BE(sat)} - I_C$