2SD797

SILICON NPN TRIPLE DIFFUSED TYPE

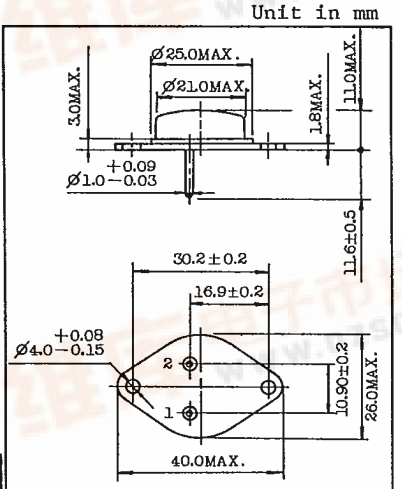
INDUSTRIAL APPLICATIONS

HGIH POWER AMPLIFIER APPLICATIONS.
HIGH POWER SWITCHING APPLICATIONS.
DC-DC CONVERTER APPLICATIONS.
REGULATOR APPLICATIONS.

FEATURES:

- High Power Dissipation : P_C=200W (Tc=25°C)
- High Collector Current : I_C=30A

Unit in mm



1. BASE
2. EMITTER
COLLECTOR (CASE)

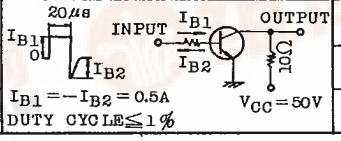
JEDEC	TO — 3
EIAJ	TC — 3, TB — 3
TOSHIBA	2 — 21A 1A

Mounting Kit No. AC73
Weight : 12.9g

MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CEO}	80	V
Emitter-Base Voltage	V_{EBO}	7	V
Collector Current	I_C	30	A
Base Current	I_B	8	A
Collector Power Dissipation (Tc=25°C)	P_C	200	W
Junction Temperature	T_j	175	°C
Storage Temperature Range	T_{stg}	-65∿175	°C

ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB}=100V, I_E=0	-	-	100	μA
Emitter Cut-off Current		I_{EBO}	V_{EB}=7V, I_C=0	-	-	100	μA
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	I_C=50mA, I_B=0	80	-	-	V
DC Current Gain		$h_{FE(1)}$ (Note)	V_{CE}=5V, I_C=1A	60	-	200	
		$h_{FE(2)}$	V_{CE}=5V, I_C=15A	10	-	-	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	I_C=15A, I_B=3A	-	0.6	1.5	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$		-	1.4	2.5	V
Transition Frequency		f_T	V_{CE}=5V, I_C=1A	-	1.5	-	MHz
Collector Output Capacitance		C_{ob}	V_{CB}=10V, I_E=0, f=1MHz	-	400	-	pF
Switching Time	Turn-on Time	t_{on}		-	2.5	-	μs
	Storage Time	t_{stg}		-	6	-	
	Fall Time	t_f		-	1.5	-	

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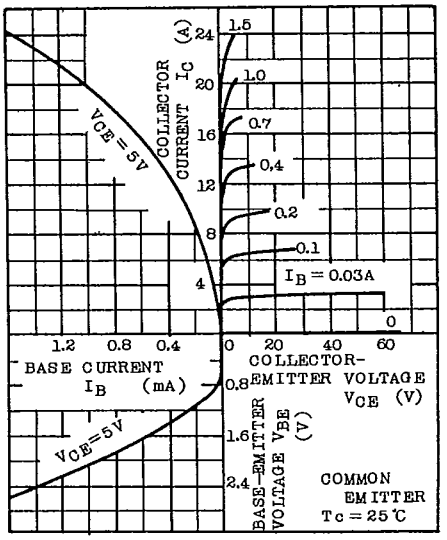
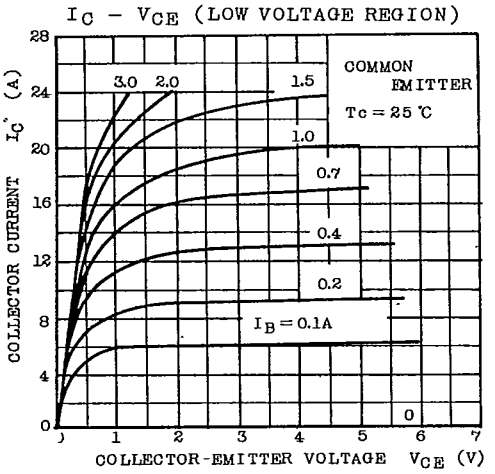
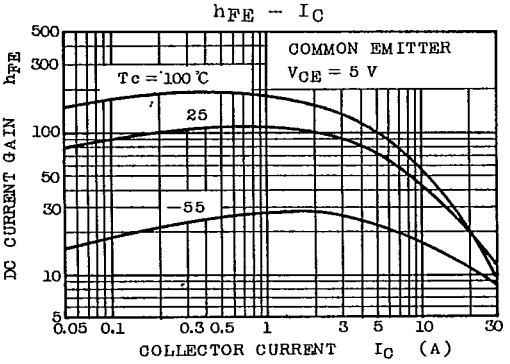
STATIC CHARACTERISTICS



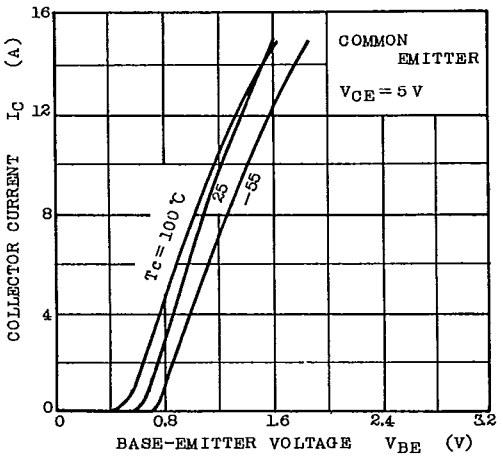
I_C – V_{CE} (LOW VOLTAGE REGION)



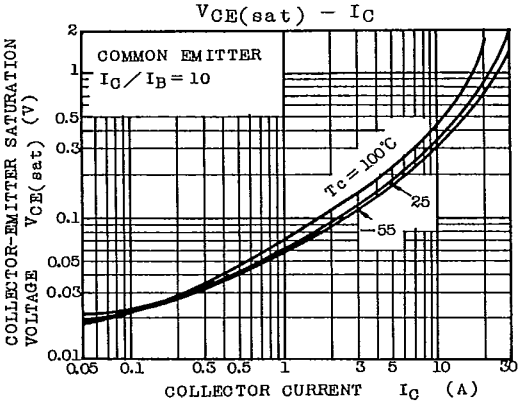
h_{FE} – I_C



I_C – V_{BE}



$V_{CE(sat)}$ – I_C



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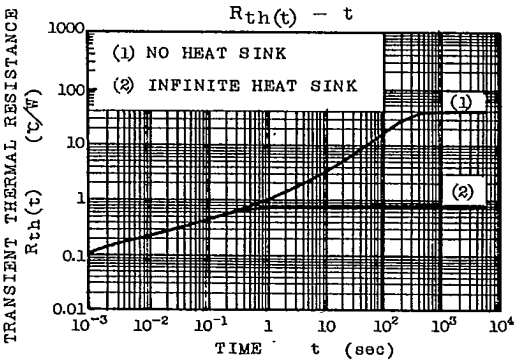
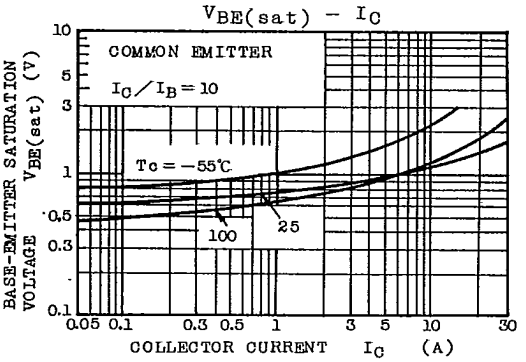
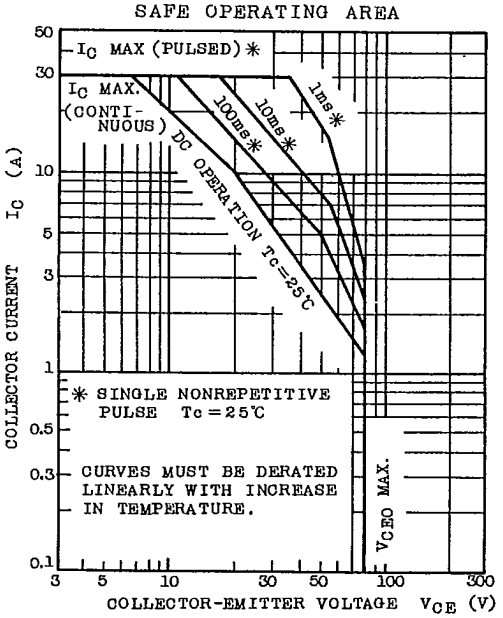

$R_{th(t)}$ – t
TRANSIENT THERMAL RESISTANCE $R_{th(t)}$ (°C/W)
(1) NO HEAT SINK
(2) INFINITE HEAT SINK
TIME t (sec)


$V_{BE(sat)}$ – I_C
COMMON EMITTER
$I_C/I_B=10$
Tc=−55°C
100
25
BASE-EMITTER SATURATION VOLTAGE $V_{BE(sat)}$ (V)
COLLECTOR CURRENT I_C (A)


SAFE OPERATING AREA
I_C MAX (PULSED)*
I_C MAX. (CONTINUOUS)
DC OPERATION Tc=25°C
100ms*
10ms*
1ms*
* SINGLE NONREPETITIVE PULSE Tc=25°C
CURVES MUST BE DERATED LINEARLY WITH INCREASE IN TEMPERATURE.
V_{CEO} MAX.
COLLECTOR CURRENT I_C (A)
COLLECTOR-EMITTER VOLTAGE V_{CE} (V)