2SD877

SILICON NPN TRIPLE DIFFUSED TYPE

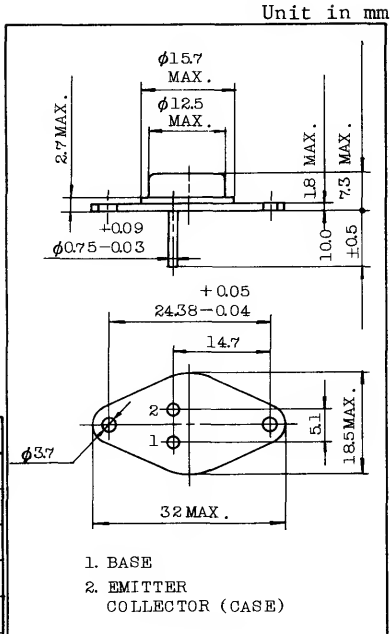
INDUSTRIAL APPLICATIONS

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

FEATURES:

- Low Saturation Voltage : $V_{CE(sat)}$=0.5V(Typ.) (I_C=3A)

Unit in mm



1. BASE
2. EMITTER
COLLECTOR (CASE)

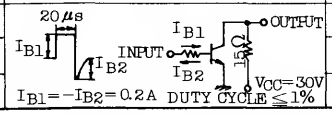
JEDEC	TO-66
EIAJ	TC-16A, TB-23
TOSHIBA	2-13A1A

Mounting kit No. AC74
Weight : 5.9g

MAXIMUM RATINGS (Ta=25°C)

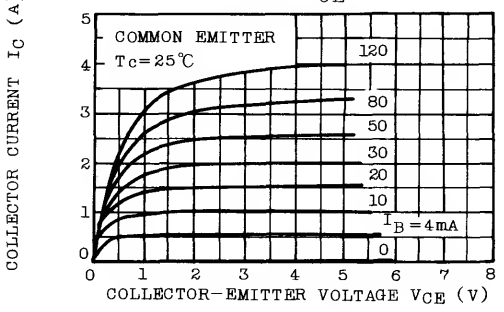
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	110	V
Collector-Emitter Voltage	V_{CEO}	80	V
Emitter-Base Voltage	V_{EBO}	7	V
Collector Current	I_C	3	A
Base Current	I_B	1	A
Collector Power Dissipation (Tc=25°C)	P_C	25	W
Junction Temperature	T_j	175	°C
Storage Temperature Range	T_{stg}	-65∿175	°C

ELECTRICAL CHARACTERISTICS (Ta=25°C)

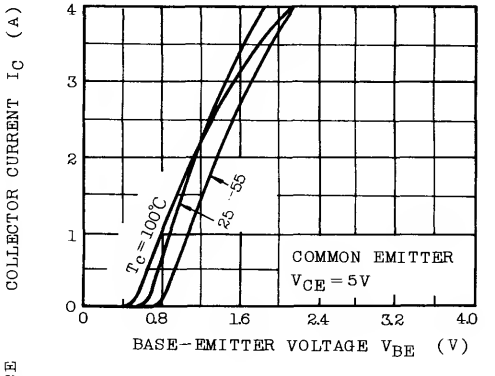
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB}=110V, I_E=0	-	-	100	μA
Emitter Cut-off Current		I_{EBO}	V_{EB}=7V, I_C=0	-	-	100	μA
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	I_C=50mA, I_B=0	80	-	-	V
DC Current Gain		$h_{FE(1)}$	V_{CE}=5V, I_C=0.5A (Note)	60	-	300	
		$h_{FE(2)}$	V_{CE}=5V, I_C=2.5A	20	-	-	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	I_C=3A, I_B=0.3A	-	0.5	1.0	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$		-	1.2	1.5	
Transition Frequency		f_T	V_{CE}=5V, I_E=-0.5A	-	3	-	MHz
Collector Output Capacitance		C_{ob}	V_{CB}=10V, I_E=0, f=1MHz	-	85	-	PF
Switching Time	Turn-on Time	t_{on}		-	1.5	-	us
	Storage Time	t_{stg}		-	5.0	-	
	Fall Time	t_f		-	2.0	-	

Note : h_{FE} Classification : O : 60∿120, Y : 100∿200, GR : 150∿300

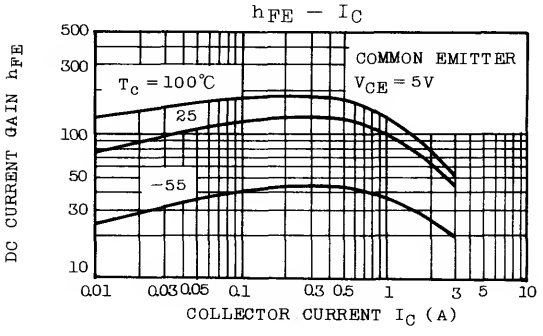
$I_C - V_{CE}$



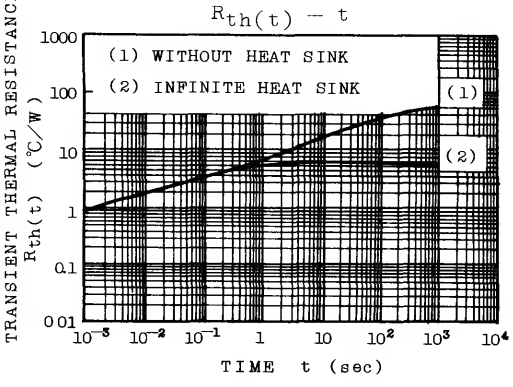
$I_C - V_{BE}$



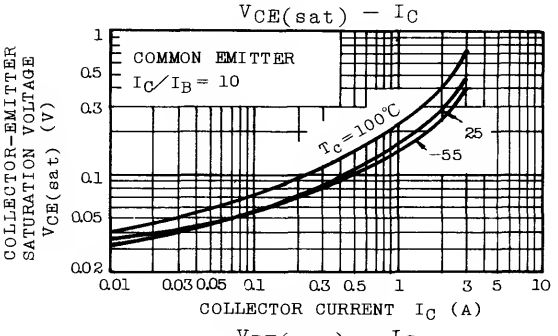
$h_{FE} - I_C$



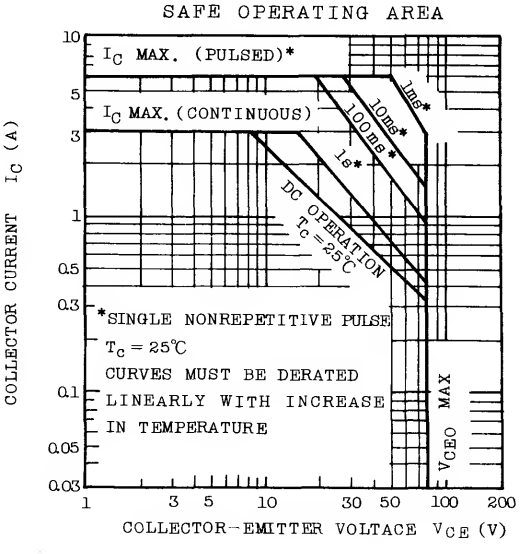
$R_{th(t)} - t$



$V_{CE(sat)} - I_C$



SAFE OPERATING AREA



$V_{BE(sat)} - I_C$