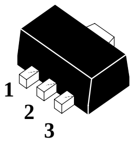
WEITRON

WTM1624

NPN EPITAXIAL PLANAR TRANSISTOR

Lead(Pb)-Free

1. BASE
2. COLLECTOR
3. EMITTER



SOT-89

Description

The WTM1624 applies to voltage regulators, relay drivers,lamp drivers,and electrical equipment.

Features

- Adoption of FBET, MBIT processes
- Low collector-to-emitter saturation voltage
- Fast switching speed
- Large current capacity and wide ASO

Absolute Maximum Ratings at T_A = 25℃

Parameter	Symbol	Ratings	Unit
Junction Temperature	Tj	+150	℃
Storage Temperature	Tstg	-55~+150	℃
Collector to Base Voltage	V_{CBO}	60	V
Collector to Emitter Voltage	V_{CEO}	50	V
Emitter to Base Voltage	V_{EBO}	6	V
Collector Current (DC)	I_C	3	A
Collector Current (Pulse) (Note1)	I_{CP}	6	A
Total Power Dissipation	P_D	0.5	W

Note 1: Single pulse, PW=10ms

Electrical Characteristics (Ta = 25℃, unless otherwise stated)

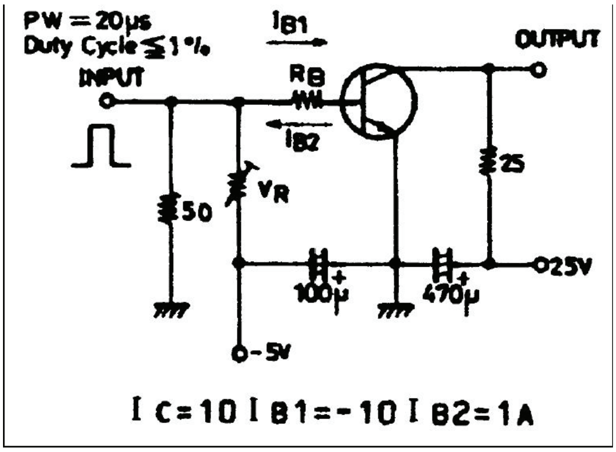
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	60	-	-	V	I_C=10uA , I_E=0
BV_{CEO}	50	-	-	V	I_C=1mA, I_B=0
BV_{EBO}	6	-	-	V	I_E=10uA ,I_C=0
I_{CBO}	-	-	1	uA	V_{CB}=40V, I_E=0
I_{EBO}	-	-	1	uA	V_{EB}=4V, I_C=0
*$V_{CE(sat)}$	-	0.19	0.5	V	I_C=2A, I_B=100mA
*$V_{BE(sat)}$	-	0.94	1.2	V	I_C=2A, I_B=100mA
*h_{FE}	100	-	560		V_{CE}=2V, I_C=100mA
f_T	-	150	-	MHz	V_{CE}=10V, I_C=50mA
Cob	-	25	-	pF	V_{CB}=10V, I_E=0, f=1MHz
tstg	-	650	-	ns	See test circuit
tf	-	35	-	ns	

*Measured under pulse condition. Pulse widthfi380fls, Duty Cyclefi2%

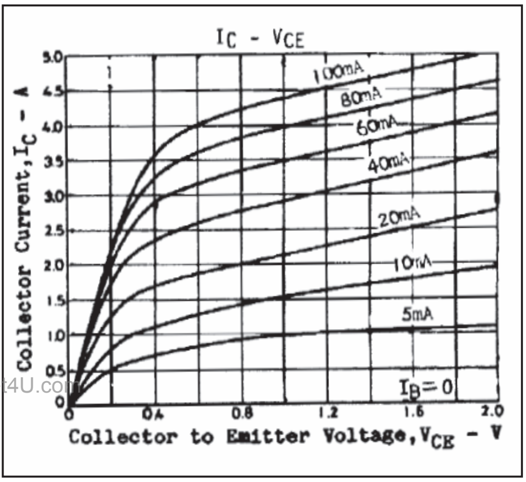
Classification of h_{FE}

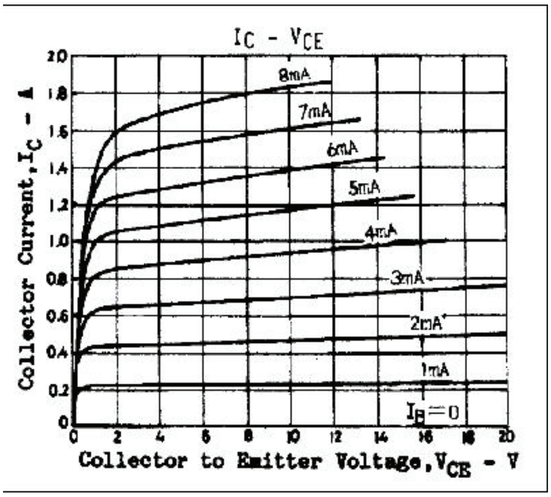
Rank	R	S	T	U
Range	100 - 200	140 - 280	200 - 400	280 - 560

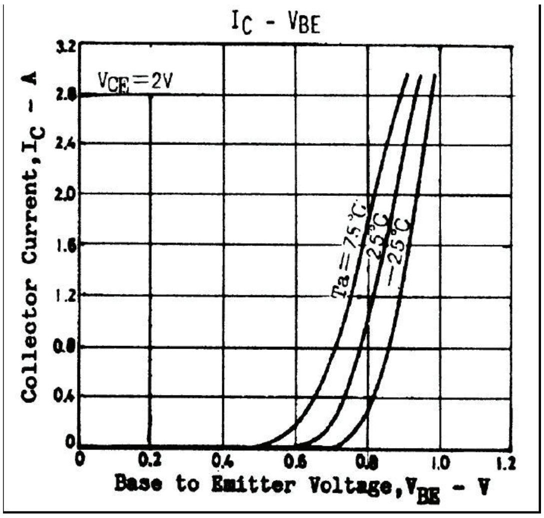
Test Circuit(Unit: resistance:Ω, capacitance: F)

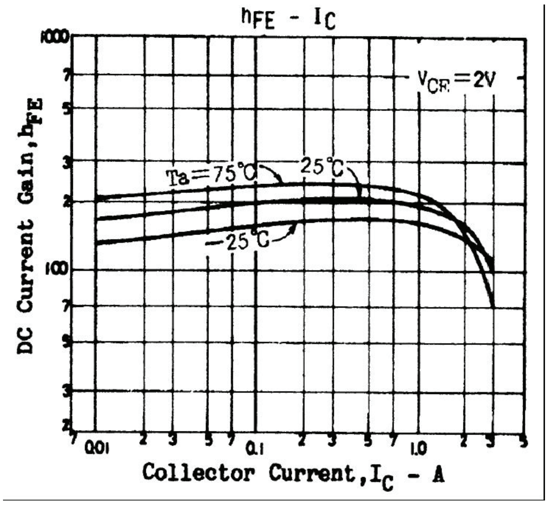


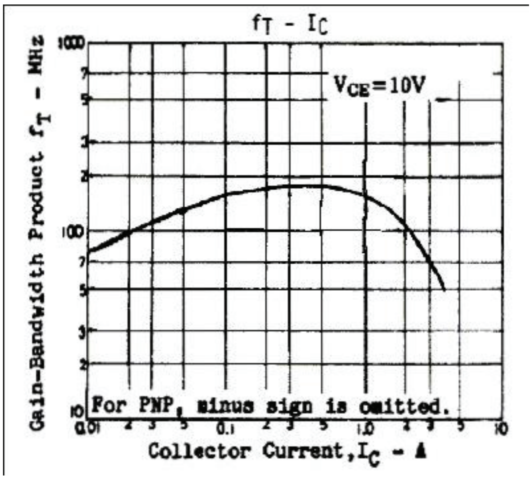
Characteristics Curve

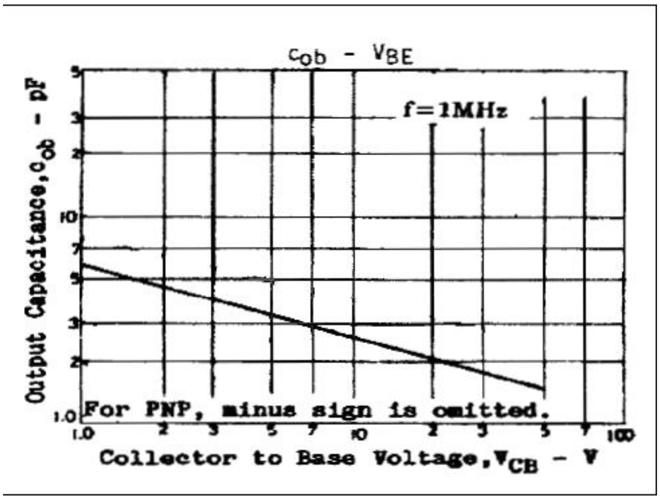


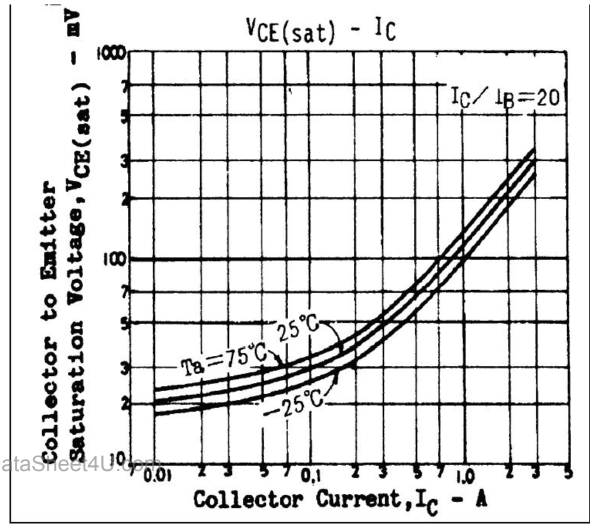


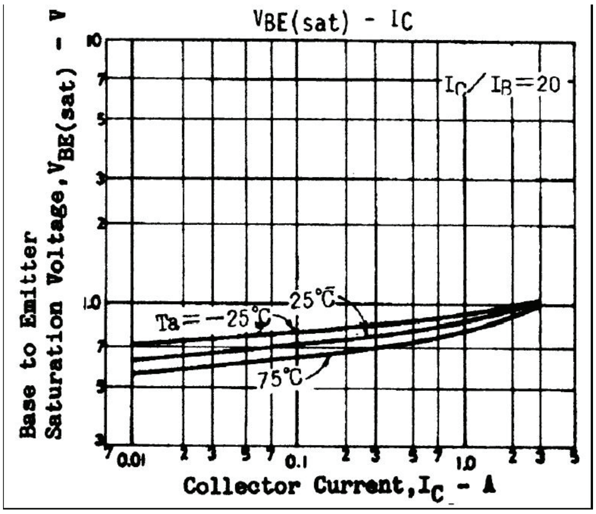


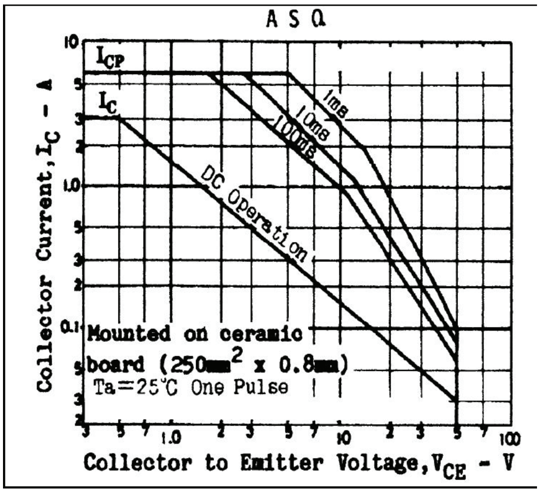


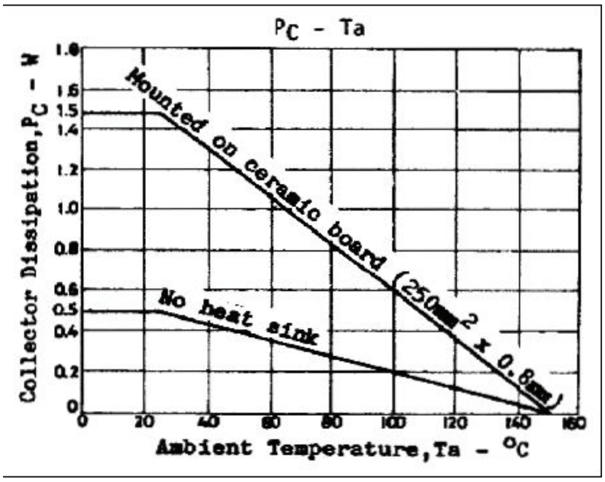

fT - IC
Gain-Bandwidth Product fT - MHz
VCE=10V
For PNP, minus sign is omitted.
Collector Current,IC - A
1000
7
5
3
2
100
7
5
3
2
10
0.01
0.1
1.0
10


Cob - VBE
Output Capacitance,Cob - pF
f=1MHz
For PNP, minus sign is omitted.
Collector to Base Voltage,VCB - V
10
1.0
100


VCE(sat) - IC
Collector to Emitter Saturation Voltage,VCE(sat) - mV
IC/IB=20
Ta=75°C
25°C
-25°C
Collector Current,IC - A
1000
100
10
0.01
0.1
1.0

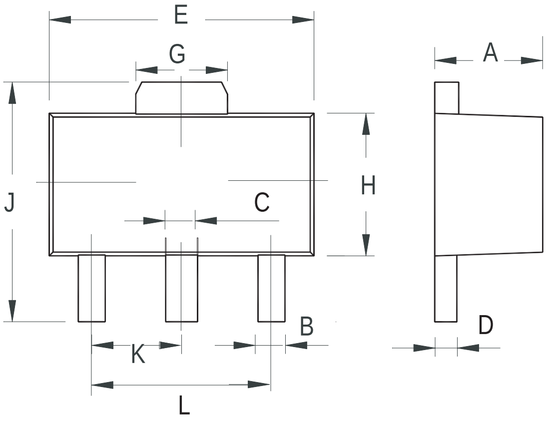

VBE(sat) - IC
Base to Emitter Saturation Voltage,VBE(sat) - V
IC/IB=20
Ta=-25°C
25°C
75°C
Collector Current,IC - A
10
1.0
0.01
0.1
1.0


A S O
Collector Current,IC - A
ICP
IC
1ms
10ms
100ms
DC Operation
Mounted on ceramic board (250mm² x 0.8mm)
Ta=25°C One Pulse
Collector to Emitter Voltage,VCE - V
10
1.0
0.1
1.0
10
100


PC - Ta
Collector Dissipation,PC - W
Mounted on ceramic board (250mm² x 0.8mm)
No heat sink
Ambient Temperature,Ta - °C
1.8
1.6
1.5
1.4
1.2
1.0
0.8
0.6
0.5
0.4
0.2
0
0
20
40
60
80
100
120
140
160

SOT-89 Outline Dimensions

unit:mm



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Dim	Min	Max
A	1.400	1.600
B	0.320	0.520
C	0.360	0.560
D	0.350	0.440
E	4.400	4.600
G	1.400	1.800
H	2.300	2.600
J	3.940	4.250
K	1.500TYP	
L	2.900	3.100