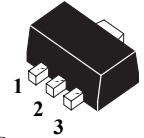


NPN Epitaxial Planar Transistors

(Pb) Lead(Pb)-Free

SOT-89


1. BASE
2. COLLECTOR
3. EMITTER

ABSOLUTE MAXIMUM RATINGS (T_A=25°C)

Rating	Symbol	Limits	Unit
Collector-Base Voltage	V _{CBO}	180	V
Collector-Emitter Voltage	V _{CEO}	160	V
Emitter-Base Voltage	V _{EBO}	5	V
Collector Current	I _{C(DC)}	1.5	A
	I _{C(Pulse)}	3	
Collector Power Dissipation	P _D	1	W
Junction Temperature	T _j	150	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C

Device Marking

WTM669A=669A

ELECTRICAL CHARACTERISTICS(T_A=25°C unless otherwise noted)

Parameter	Symbol	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage I _C =1mA, I _E =0	BV _{CBO}	180	-	-	V
Collector-Emitter Breakdown Voltage I _C =10mA, I _B =0	BV _{CEO}	160	-	-	V
Emitter-Base Breakdown Voltage I _E =1mA, I _C =0	BV _{EBO}	5	-	-	V
Collector Cutoff Current V _{CB} =160V, I _E =0	I _{CBO}	-	-	10	μA

WTM669A **WEITRON****ELECTRICAL CHARACTERISTICS** ($T_A=25^{\circ}\text{C}$ Unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
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ON CHARACTERISTICS⁽¹⁾

DC Current Gain $V_{CE}=5\text{V}, I_C=150\text{mA}$ $V_{CE}=5\text{V}, I_C=500\text{mA}$	h_{FE1} h_{FE2}	60 30	- -	200 -	-
Collector-Emitter Saturation Voltage $I_C=600\text{mA}, I_B=50\text{mA}$	$V_{CE(sat)}$	-	-	1	V
Base-Emitter Saturation Voltage $V_{CE}=5\text{V}, I_C=150\text{mA}$	$V_{BE(on)}$	-	-	1.5	V

1. Pulse Test: Pulse Width $\leq 380\mu\text{s}$, Duty Cycle $\leq 2\%$ **DYNAMIC CHARACTERISTICS**

Transition Frequency $V_{CE}=5\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	f_T	-	140	-	MHz
Output Capacitance $V_{CB}=10\text{V}, f=1\text{MHz}$	C_{ob}	-	14	-	pF

CLASSIFICATION OF h_{FE1}

Rank	B	C
h_{FE1}	60-120	100-200

ELECTRICAL CHARACTERISTIC CURVES

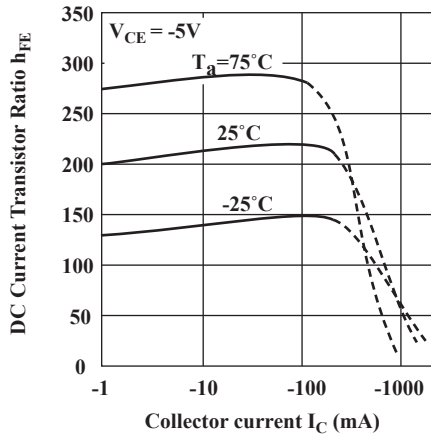


Fig.1 Current Gain & Collector Current

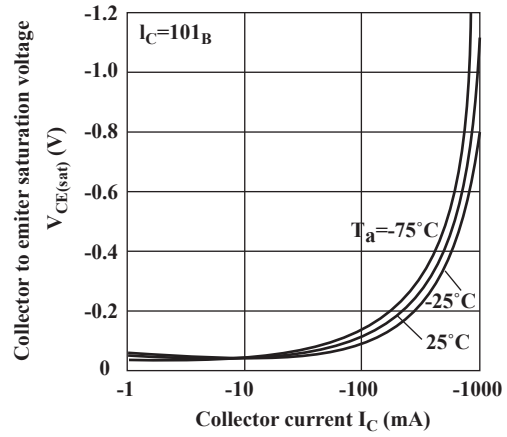


Fig.2 Saturation Voltage & Collector Current

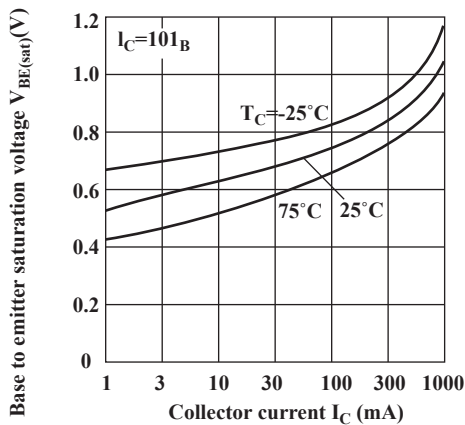


Fig.3 Saturation Voltage & Collector Current

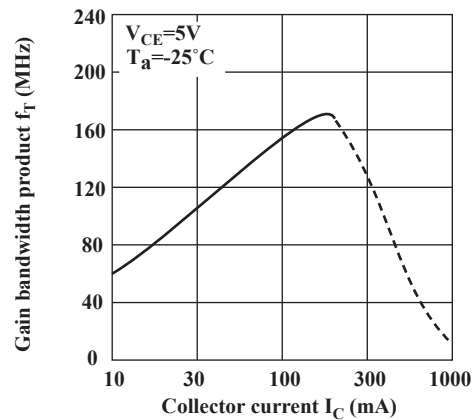


Fig.4 Gain Bandwidth Product & Collector Current

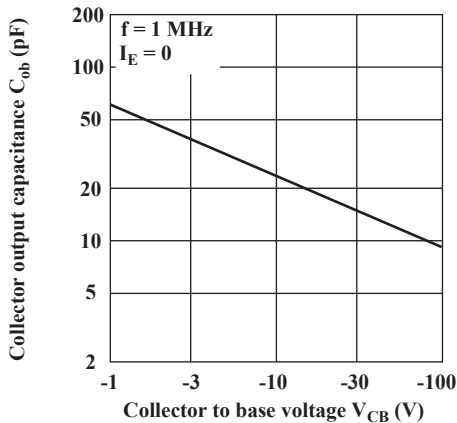


Fig.5 Capacitance & Collector to Base Voltage

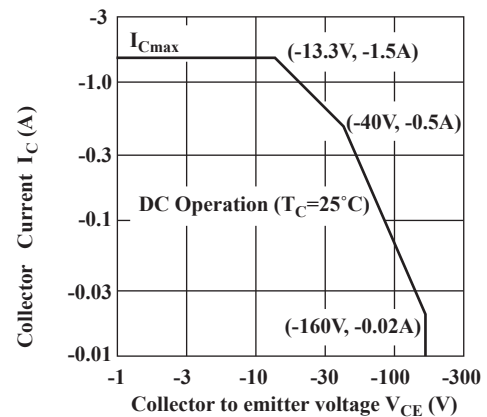
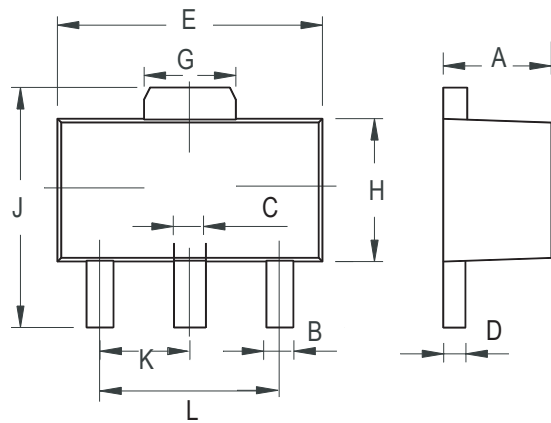


Fig.6 Safe Operating Area

WTM649A**WEITRON****SOT-89 Outline Dimensions**

unit:mm



SOT-89		
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