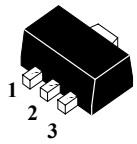
WEITRON

WTM1766

NPN EPITAXIAL PLANAR TRANSISTOR

Lead(Pb)-Free

1. BASE
2. COLLECTOR
3. EMITTER



SOT-89

MAXIMUM RATINGS (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Value	Units
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	32	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current -Continuous	I_C	2.0	A
Collector Power dissipation	P_C	500	mW
Junction Temperature	T_J	150	℃
Storage Temperature	T_{stg}	-55-150	℃

ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=50μA, I_E=0	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA, I_B=0	32			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=50μA, I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=20V, I_E=0			1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=4V, I_C=0			1	μA
DC current gain	$h_{FE(1)}$	V_{CE}=3V, I_C=500mA	82		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=2A, I_B=0.2A			0.8	V
Transition frequency	f_T	V_{CE}=5V, I_C=50mA, f=100MHz		100		MHz
Collector output capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz		30		pF

CLASSIFICATION OF $h_{FE(1)}$

Rank	**P**	**Q**	**R**
Range	82-180	120-270	180-390
Marking	**DBP**	**DBQ**	**DBR**

Typical Characteristics

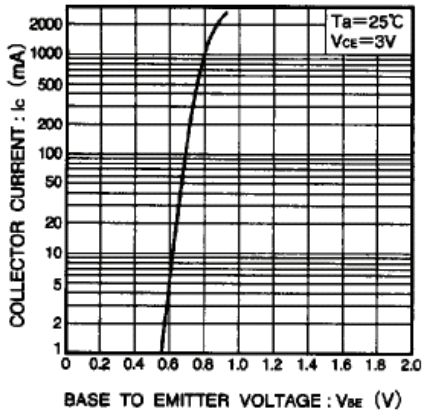


Fig.1 Grounded emitter propagation characteristics

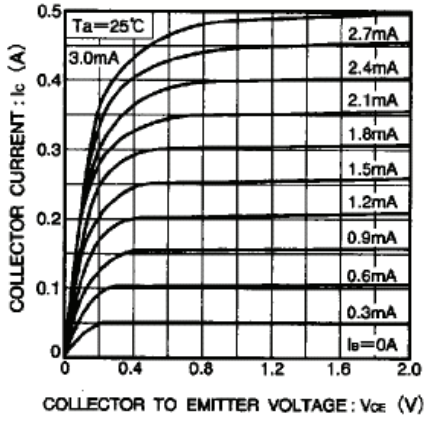


Fig.2 Grounded emitter output characteristics

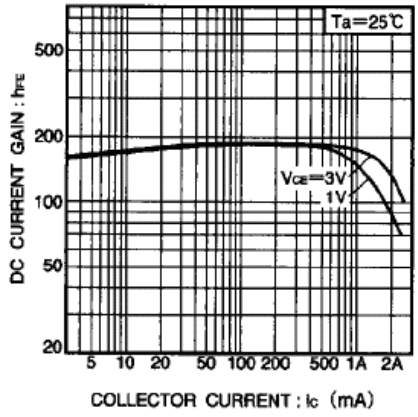


Fig.3 DC current gain vs. collector current

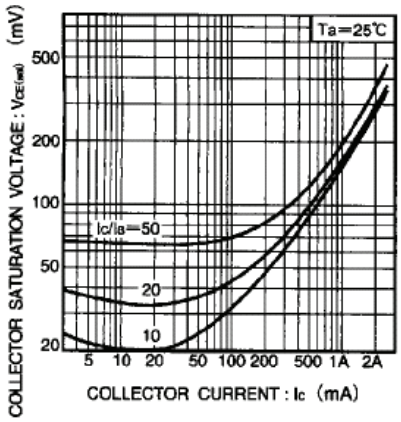


Fig.4 Collector-emitter saturation voltage vs. collector current

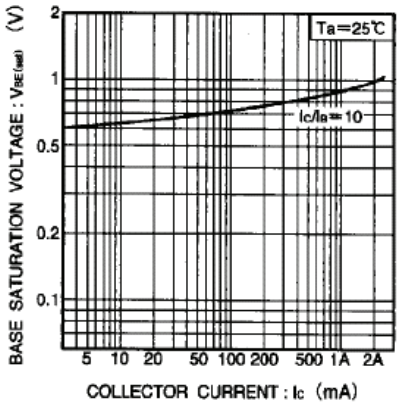


Fig.5 Collector-emitter saturation voltage vs. collector current

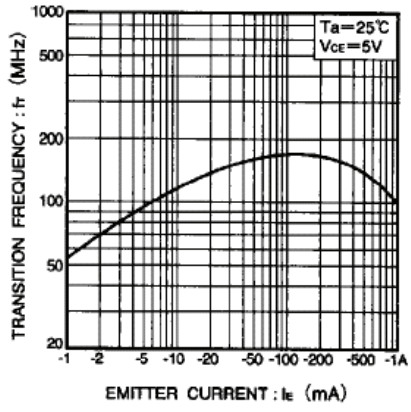


Fig.6 Transition frequency vs. emitter current

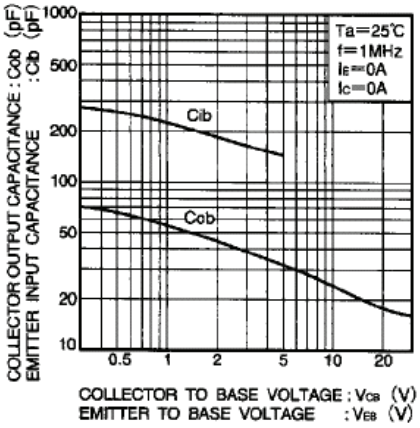


Fig.7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

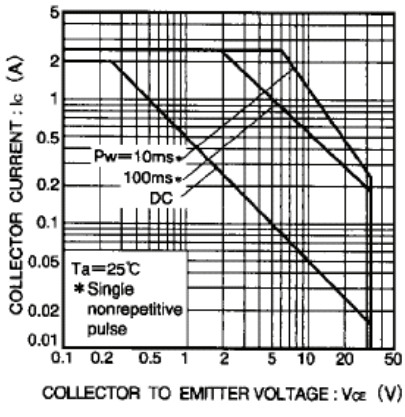
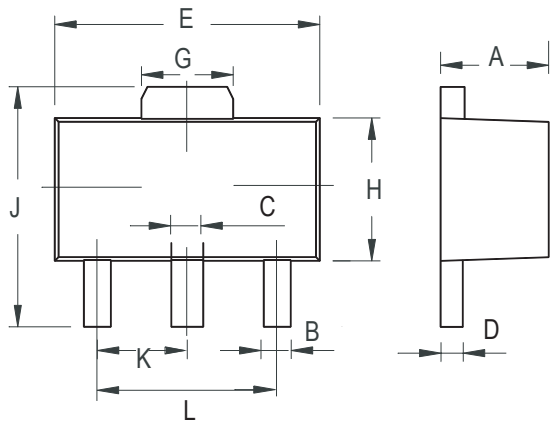


Fig.8 Safe operating area (2SD1766)

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