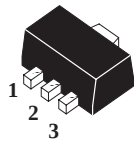
WEITRON

2SD1664

NPN Epitaxial Planar Transistors

Pb Lead(Pb)-Free

1. BASE
2. COLLECTOR
3. EMITTER



SOT-89

Features:

* Low $V_{CE(sat)}$, $V_{CE(sat)}$=0.15V(typical).(I_C/I_B=500mA/50mA)

ABSOLUTE MAXIMUM RATINGS (T_A=25˚C)

Rating	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	32	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	1.0	A
Collector Power Dissipation	P_D	0.5	W
Junction Temperature	T_j	-55 to +150	˚C
Storage Temperature Range	T_{stg}	-55 to +150	˚C

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

Parameter	Symbol	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage I_C=50μA, I_E=0	BV_{CBO}	40	-	-	V
Collector-Emitter Breakdown Voltage I_C=1mA, I_B=0	BV_{CEO}	32	-	-	V
Emitter-Base Breakdown Voltage I_E=50μA, I_C=0	BV_{EBO}	5	-	-	V
Collector Cutoff Current V_{CB}=20V, I_E=0	I_{CBO}	-	-	0.5	μA
Collector Cutoff Current V_{EB}=4V, I_C=0	I_{EBO}	-	-	0.5	μA

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

Characteristic	Symbol	Min	Typ	Max	Unit
ON CHARACTERISTICS					
DC Current Gain V_{CE}=3V, I_C=100mA	h_{FE}	82	-	390	-
Collector-Emitter Saturation Voltage I_C=0.5A, I_B=50mA	$V_{CE(sat)}$	-	-	0.4	V
DYNAMIC CHARACTERISTICS					
Transition Frequency V_{CE}=5V, I_C=50mA f=100MHz	f_T	-	150	-	MHz
Output Capacitance V_{CB}=10V, I_E=0, f=1MHz	C_{ob}	-	15	-	pF

CLASSIFICATION OF h_{FE}

Rank	P	Q	R
Range	82-180	120-270	180-390
Marking	DAP	DAQ	DAR

Typical Characteristics

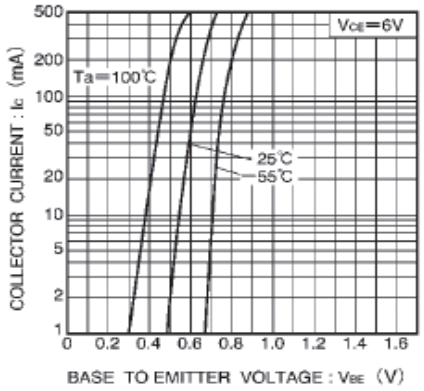


Fig.1 Grounded emitter propagation characteristics

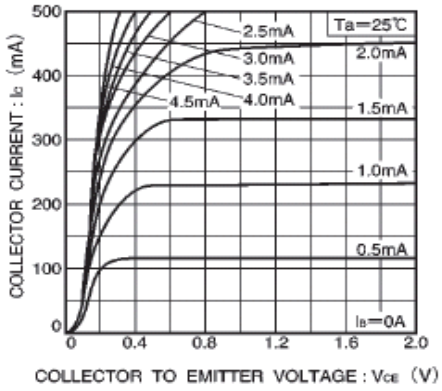


Fig.2 Grounded emitter output characteristics

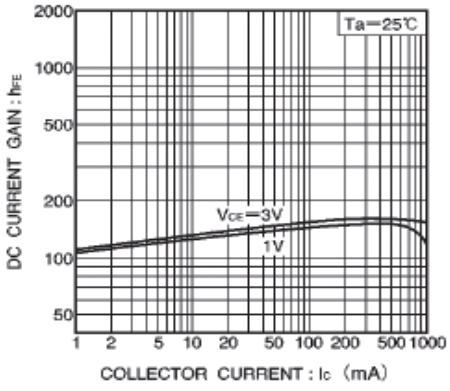


Fig.3 DC current gain vs. collector current (Ⅰ)

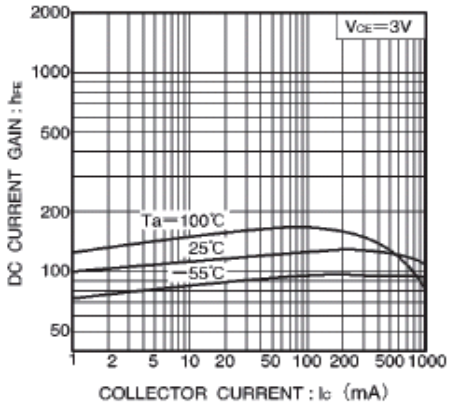


Fig.4 DC current gain vs. collector current (Ⅱ)

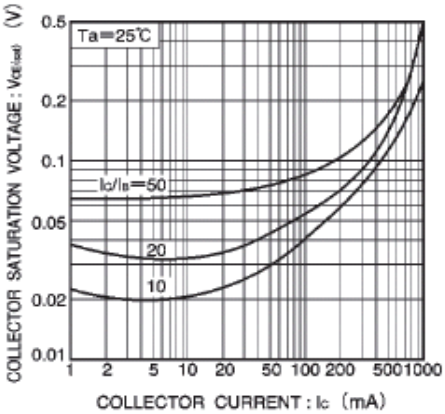


Fig.5 Collector-emitter saturation voltage vs. collector current (Ⅰ)

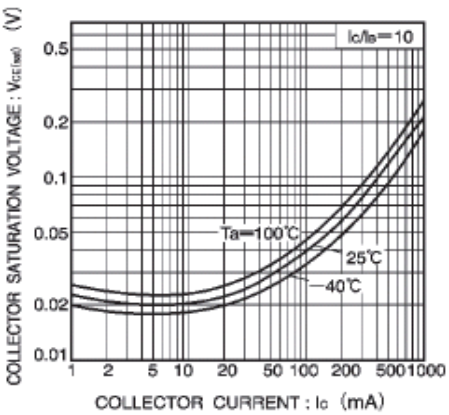


Fig.6 Collector-emitter saturation voltage vs. collector current (Ⅱ)

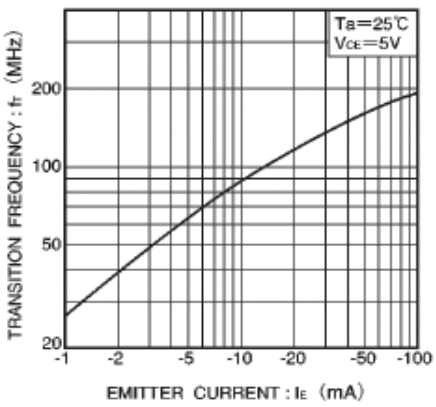


Fig.7 Gain bandwidth product vs. emitter current

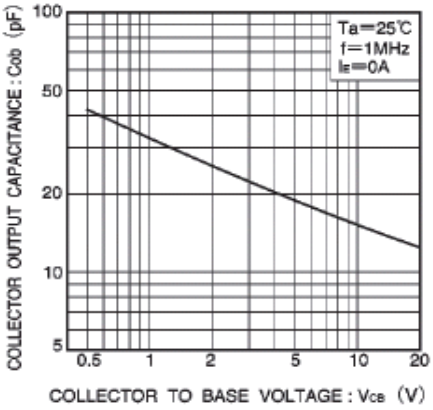


Fig.8 Collector output capacitance vs. collector-base voltage

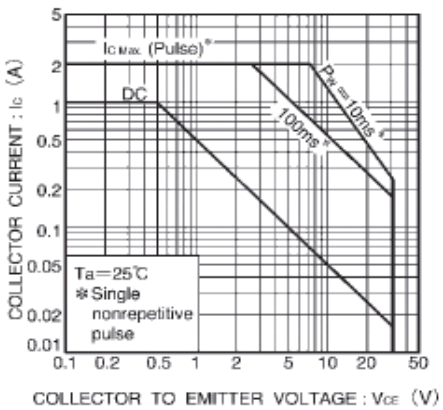


Fig.9 Safe operating area (2SD1664)

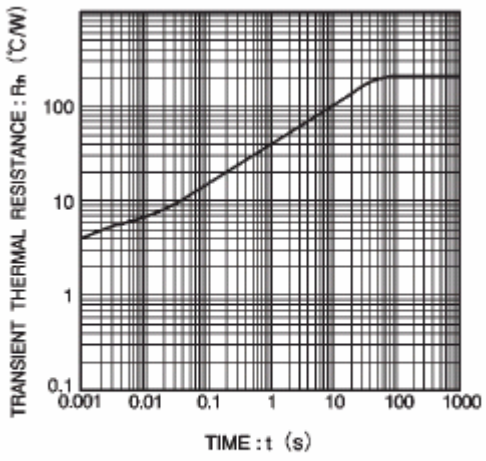
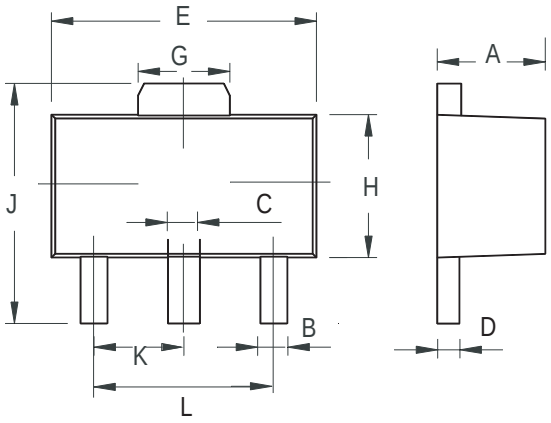


Fig.10 Transient thermal resistance (2SD1664)

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	1.500 TYP	
L	2.900	3.100