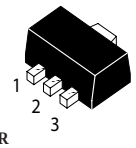
WEITRON

2SD2098

NPN Plastic-Encapsulate Transistor

SOT-89



1. BASE
2. COLLECTOR
3. EMITTER

ABSOLUTE MAXIMUM RATINGS(Ta=25℃)

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	VCEO	20	Vdc
Collector-Base Voltage	VCBO	50	Vdc
Emitter-Base Voltage	VEBO	6.0	Vdc
Collector Current	I_C	5.0	Adc(DC)
	I_{CP}	10	Adc (Pulse)(1)
Collector Power Dissipation	P_C	0.5	W
Junction Temperature, Storage Temperature	T_j , Tstg	150, -55 to +150	℃

Device Marking

2SD2098Q=AHQ, 2SD2098R=AHR

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min	Max	Unit
Collector-Emitter Breakdown Voltage (I_C= 1.0 mAdc, I_B=0)	$V_{(BR)CEO}$	20	-	Vdc
Collector-Base Breakdown Voltage (I_C= 50 μAdc, I_E=0)	$V_{(BR)CBO}$	50	-	Vdc
Emitter-Base Breakdown Voltage (I_E= 50 μAdc, I_C=0)	$V_{(BR)EBO}$	6.0	-	Vdc
Collector Cutoff Current (V_{CB}= 40 Vdc, I_E=0)	I_{CBO}	-	0.5	uAdc
Emitter Cutoff Current (V_{EB}=5.0 Vdc, I_C=0)	I_{EBO}	-	0.5	uAdc

Note:
1. Single pulse pw=10ms

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

Characteristics	Symbol	Min	Typ	Max	Unit

ON CHARACTERISTICS

DC Current Gain (I_C=0.5 Adc, V_{CE}=2.0 Vdc)	h_{FE}	120	-	390	-
Collector-Emitter Saturation Voltage (I_C=100 mAdc, I_B=4 Adc)	$V_{CE(sat)}$	-	0.3	1.0	Vdc
Transition Frequency (I_E=-50 mAdc, V_{CE}=6.0 Vdc,f=100 MHz)	f_T	-	150	-	MHz
Output Capacitance (I_E=0 Adc, V_{CE}=20 Vdc,f=1 MHz)	Cob	-	35	-	pF

CLASSIFICATION OF h_{FE}

Item	Q	R
Range	120-270	180-390

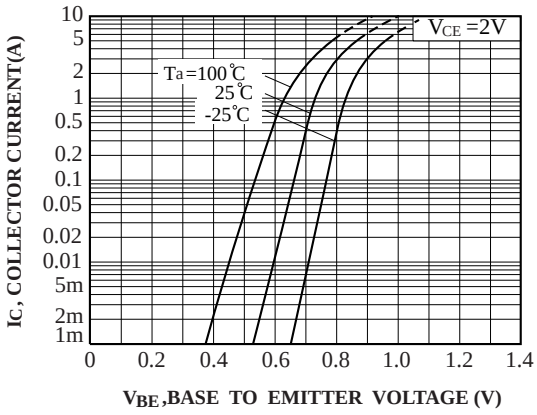


FIG.1 Grounded Emitter Propagation Characteristics

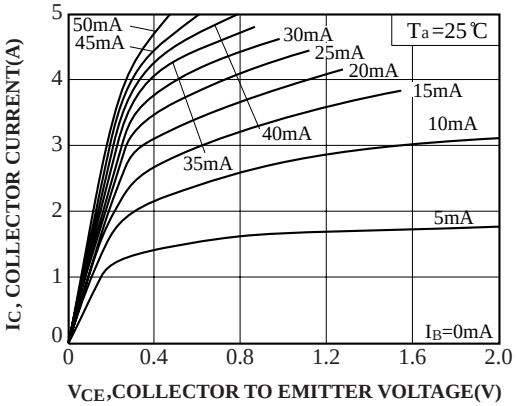


FIG.2 Grounded Emitter Output Characteristics

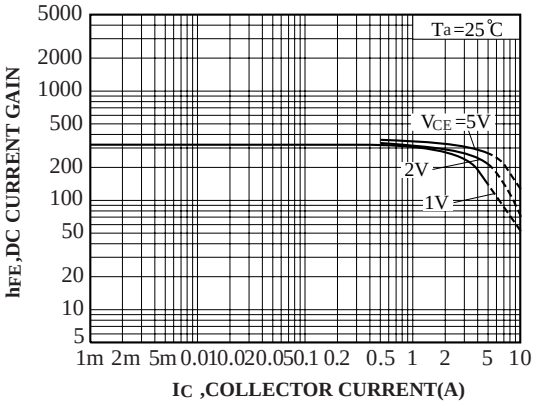


FIG.3 DC Current Gain vs. Collector Current

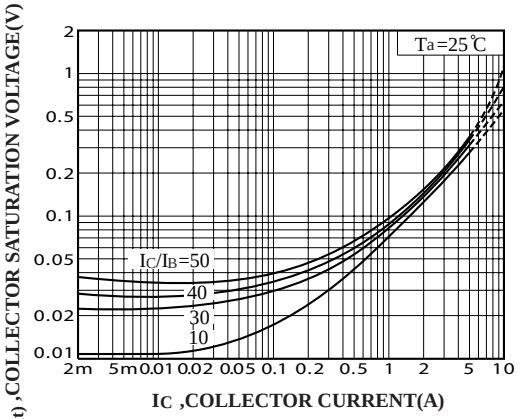


FIG.4 Collector-Emitter Saturation Voltage vs. Collector Current

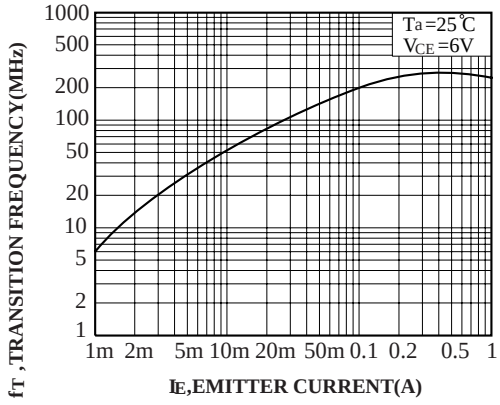


FIG.5 Gain Bandwidth Product vs. Emitter Current

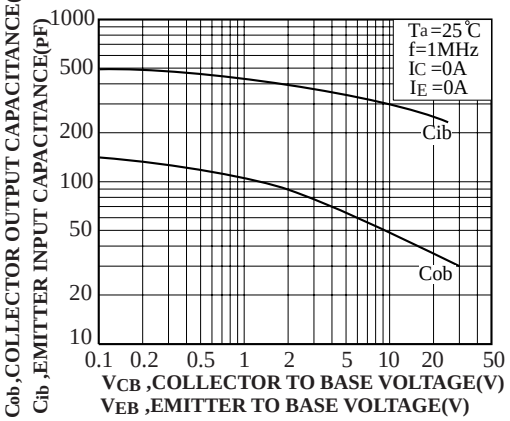


FIG.6 Collector Output Capacitance vs. Collector-Base Voltage
Emitter Input Capacitance vs. Emitter-Base Voltage

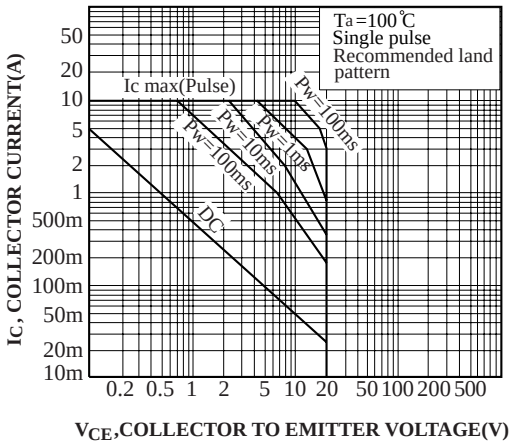
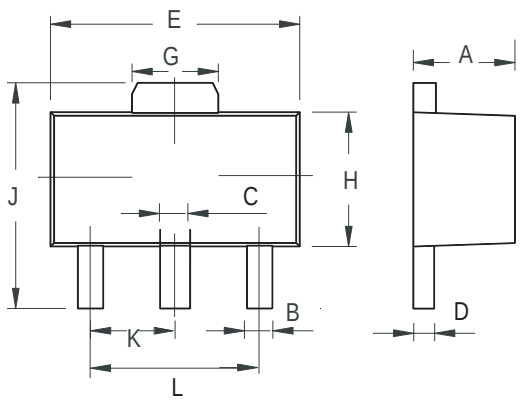


FIG.7 Safe Operating Area

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