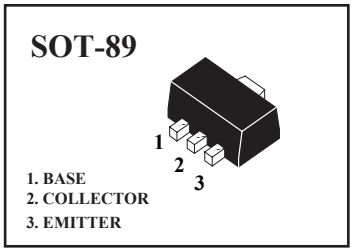
WEITRON

2SD2150

NPN Epitaxial Planar Transistors

Lead(Pb)-Free



ABSOLUTE MAXIMUM RATINGS (T_A=25°C)

Rating	Symbol	Limits	Unit
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	20	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	3	A
Collector Power Dissipation	P_D	500	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS(T_A=25°Cunless 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}	20	-	-	V
Emitter-Base Breakdown Voltage I_E=50μA, I_C=0	BV_{EBO}	6	-	-	V
Collector Cutoff Current V_{CB}=30V, I_E=0	I_{CBO}	-	-	0.1	μA
Emitter Cutoff Current V_{EB}=5V, I_E=0	I_{EBO}	-	-	0.1	μA

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

Characteristic	Symbol	Min	Typ	Max	Unit

ON CHARACTERISTICS(1)

DC Current Gain V_{CE}=2V, I_C=100mA	h_{FE}	120	-	560	-
Collector-Emitter Saturation Voltage I_C=2A, I_B=100mA	$V_{CE(sat)}$	-	-	0.5	V

1. Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%

DYNAMIC CHARACTERISTICS

Transition Frequency V_{CE}=2V, I_C=500mA, f=100MHz	f_T	-	290	-	MHz
Output Capacitance V_{CB}=10V, I_E=0, f=1MHz	C_{ob}	-	25	-	pF

CLASSIFICATION OF h_{FE}

Marking	CFQ	CFR	CFS
Rank	Q	R	S
h_{FE}	120-270	180-390	270-560

ELECTRICAL CHARACTERISTIC CURVES

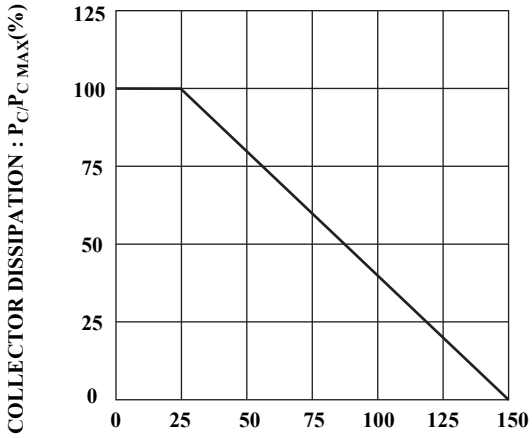


Fig.1 AMBIENT TEMPERATURE : Ta(˚C)

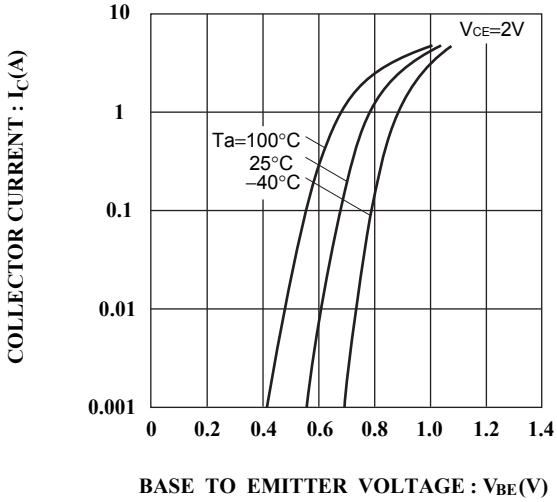


Fig.2 Grounded emitter propagation characteristics

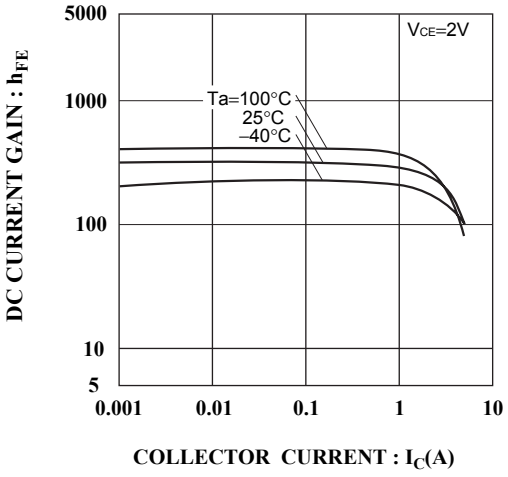


Fig.3 DC current gain vs collector current

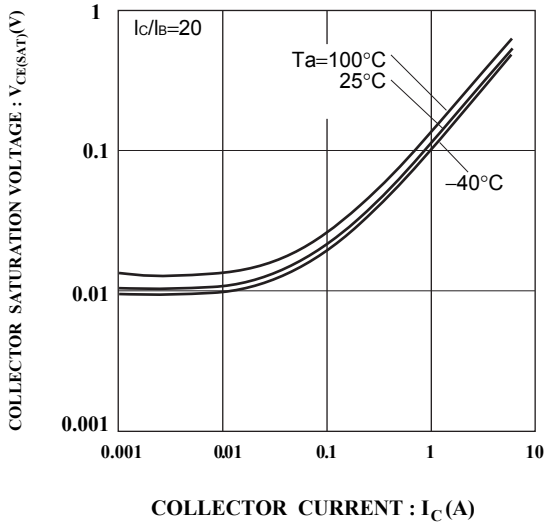
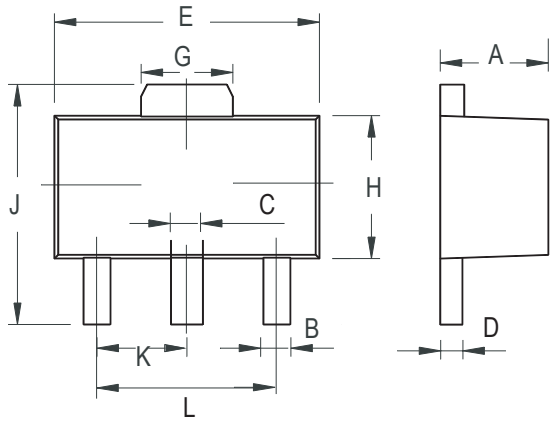


Fig.4 Collector-emitter saturation voltage vs collector curren

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