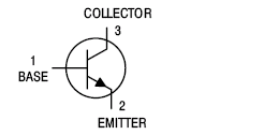
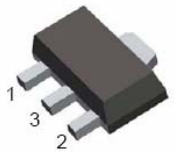
LOW FREQUENCY TRANSISTER（20V，3A） 2SD2150

FEATURES

- Low $V_{CE(sat)}$: $V_{CE(sat)}$ =0.2V(Typ.)
  (I_C/I_B=2A/0.1A).
- Excellent current gain characteristics.
- Complements the 2SB1424.

Lead-free





SOT-89

Structure

Epitaxial planar type NPN silicon transistor.

ORDERING INFORMATION

Type No.	Marking	Package Code
2SD2150	CFR	SOT-89

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Symbol	**Parameter**	**Value**	**Unit**
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	20	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	3 5	A(DC) A(Pulse)*1
P_C	Collector power dissipation	0.5	W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55 to +150	℃

*1 Single pulse Pw=10ms

LOW FREQUENCY TRANSISTER（20V，3A） 2SD2150

ELECTRICAL CHARACTERISTICS @ Ta=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	20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=50μA, I_C=0	6			V
Collector cut-off current	I_{CBO}	V_{CB}=30V, I_E=0			0.1	uA
Emitter cut-off current	I_{EBO}	V_{EB}=5V,I_C=0			0.1	uA
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C/I_B=2A/0.1A		0.2	0.5	V
DC current transfer ratio	h_{FE}	V_{CE}=2V, I_C=0.1A	120		560	h_{FE}
Transition frequency	f_T	V_{CE}=2V,I_E=-0.5A, f=100MHz		290		MHz
Output Capacitance	C_{ob}	V_{CB}=10V, f=1MHz ,I_E=0A		25		pF

*Measured using pulse current

CLASSIFICATION OF h_{FE}

Rank	Q	R	S
Range	120-270	180-390	270-560

LOW FREQUENCY TRANSISTER（20V，3A） 2SD2150

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

●Electrical characteristic curves

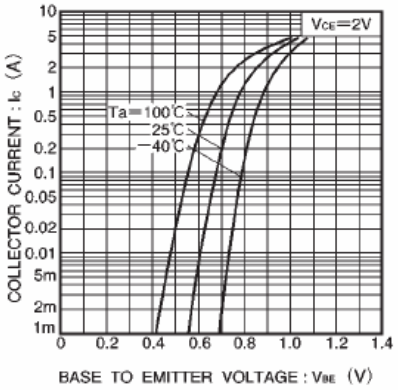


Fig.1 Grounded emitter propagation characteristics

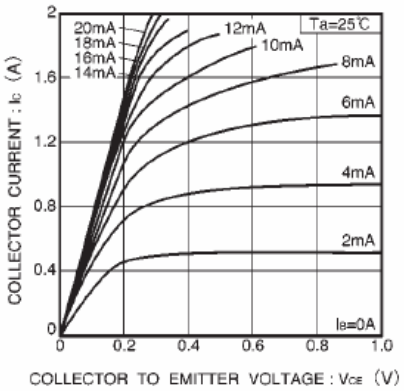


Fig.2 Grounded emitter output characteristics（Ⅰ）

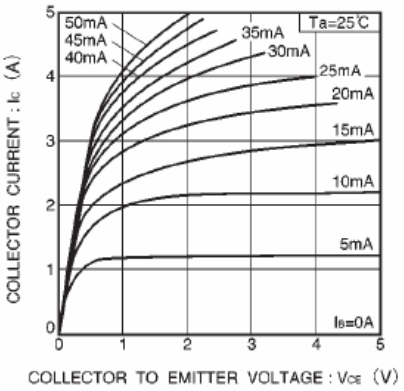


Fig.3 Grounded emitter output characteristics（Ⅱ）

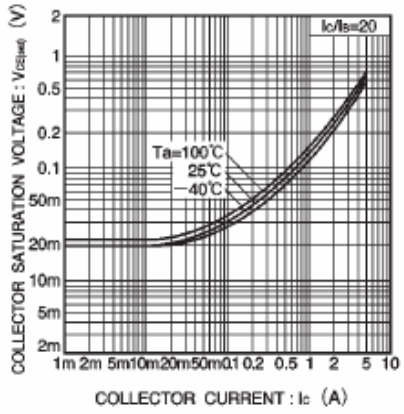


Fig.7 Collector-emitter saturation voltage vs. collector current（Ⅲ）

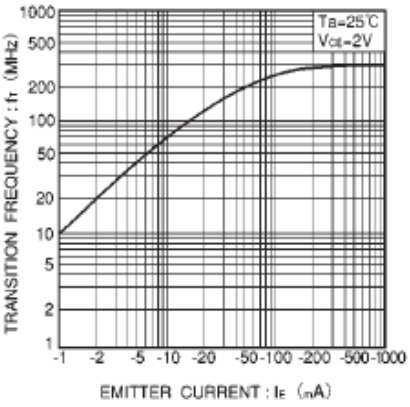


Fig.8 Gain bandwidth product vs. emitter current

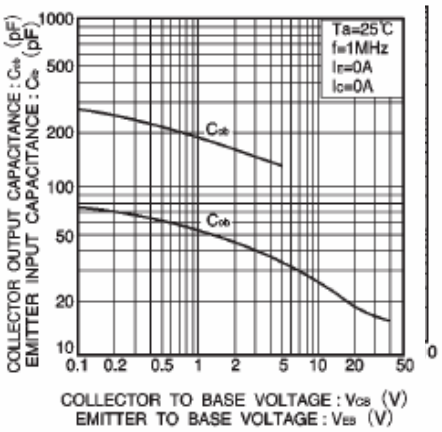
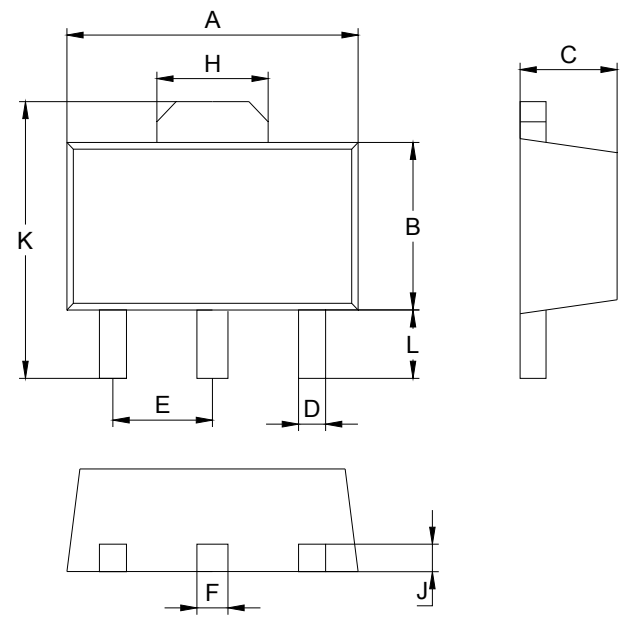


Fig.9 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

LOW FREQUENCY TRANSISTER（20V，3A） 2SD2150

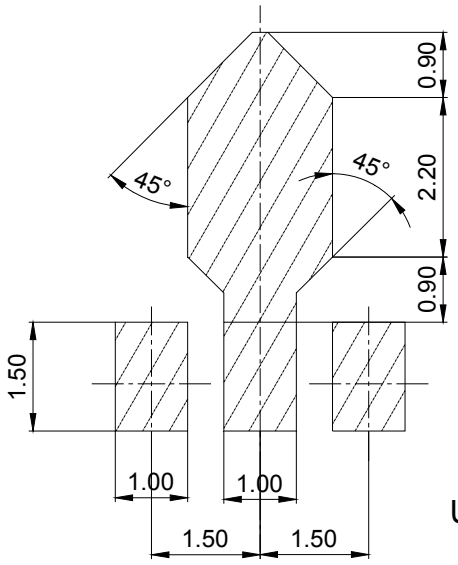
PACKAGE OUTLINE

Plastic surface mounted package SOT-89



SOT-89		
Dim	Min	Max
A	4.30	4.70
B	2.25	2.65
C	1.50 Typical	
D	0.40 Typical	
E	1.40	1.60
F	0.48 Typical	
H	1.60	1.80
J	0.40 Typical	
L	0.90	1.10
K	3.95	4.35
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit:mm

PACKAGE INFORMATION

Device	Package	Shipping
2SD2150	SOT-89	1000/Tape&Reel