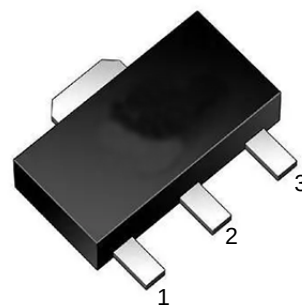


SOT-89-3L Plastic-Encapsulate Transistors

2SD2150 TRANSISTOR (NPN)

• Features

- Excellent current-to-gain characteristics
- Low collector saturation voltage $V_{CE(sat)}$
- $V_{CE(sat)}=0.5V(max)$ for $I_C/I_B=2A/0.1A$



1. BASE
2.COLLECTOR
3.EMITTER

SOT-89-3L

• MAXIMUM RATINGS $(T_C=25^{\circ}C)$

Parameter	Symbol	Limit	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_C	500	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	250	$^{\circ}C/W$
Operation Junction and Storage Temperature Range	T_J, T_{stg}	-55~+150	$^{\circ}C$

• ELECTRICAL CHARACTERISTICS $(T_a=25^{\circ}C)$

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=50\mu A, I_E=0$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=50\mu A, I_C=0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB}=30V, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5V, I_C=0$			0.1	μA
DC current gain	h_{FE}^*	$V_{CE}=2V, I_C=100mA$	180		560	
Collector-emitter saturation voltage	$V_{CE(sat)}^*$	$I_C=2A, I_B=100mA$			0.5	V
Transition frequency	f_T^*	$V_{CE}=2V, I_C=500mA$ $f=100MHz$		290		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$		25		pF

*Pulse test: $t_p \leq 300\mu S, \delta \leq 0.02$.

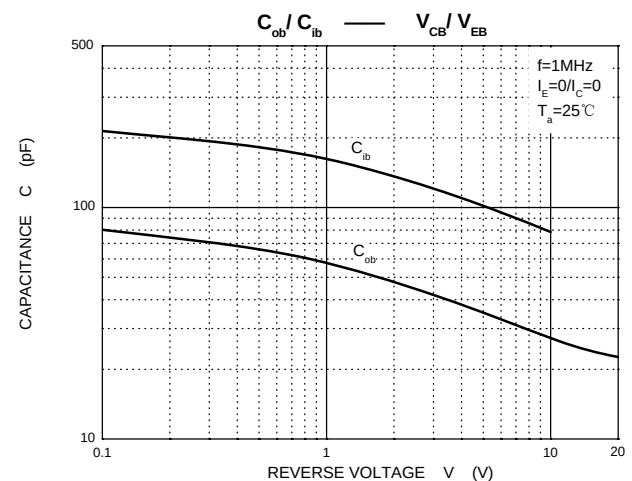
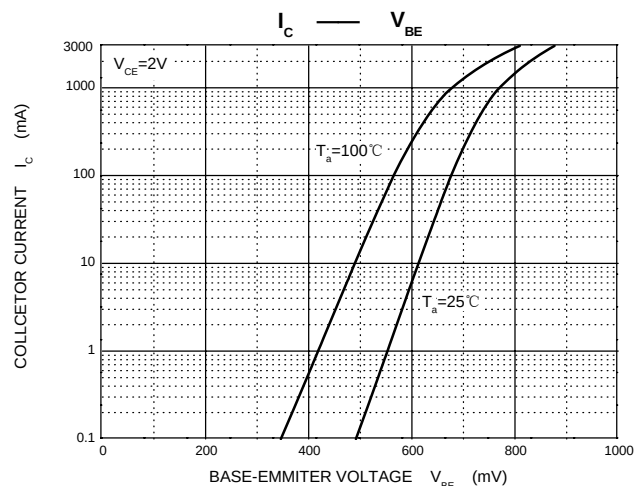
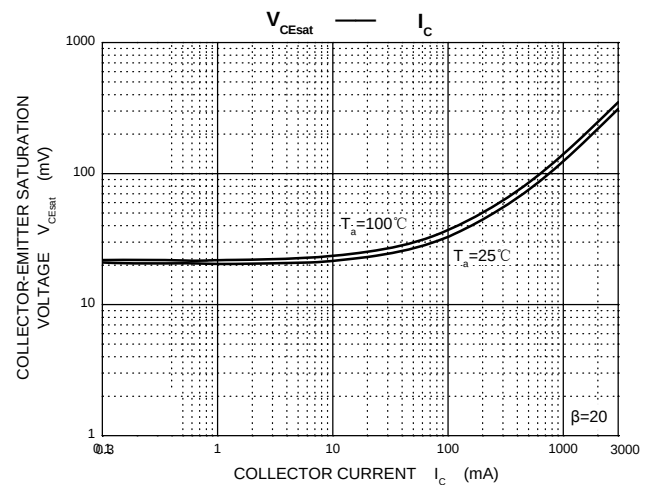
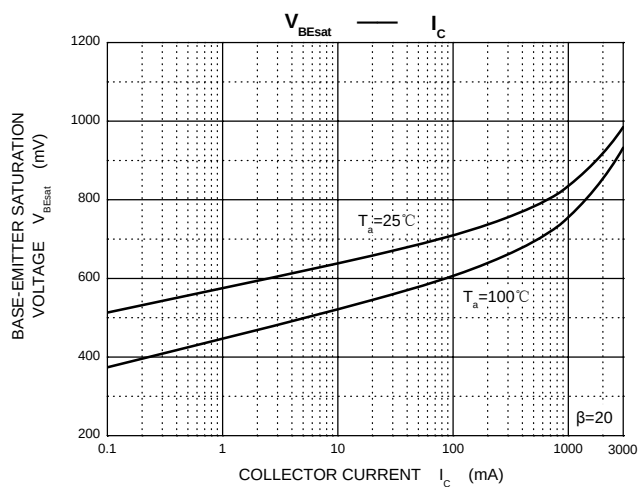
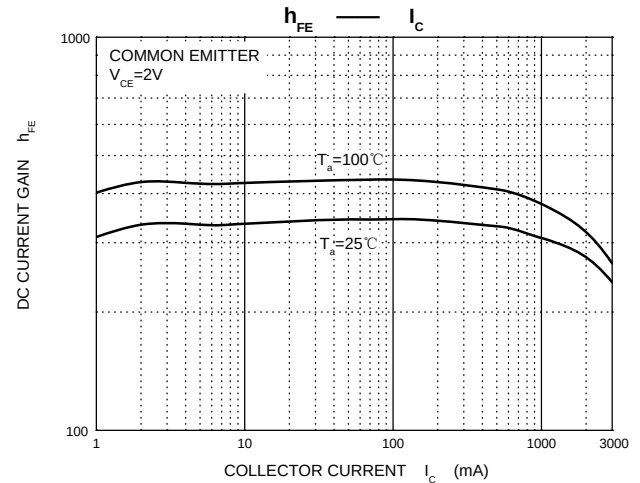
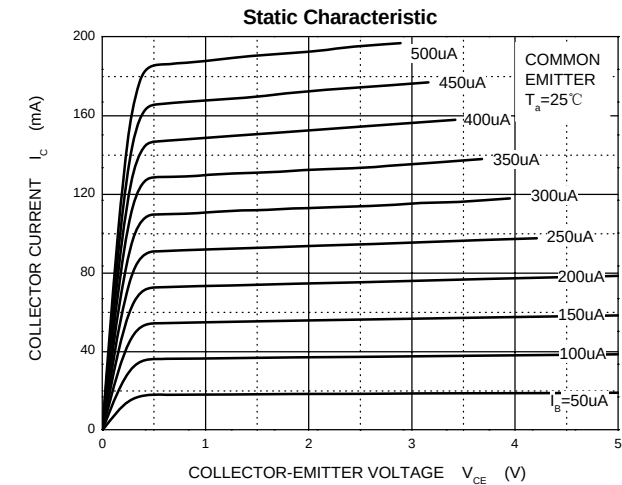
• CLASSIFICATION OF $h_{FE(1)}$

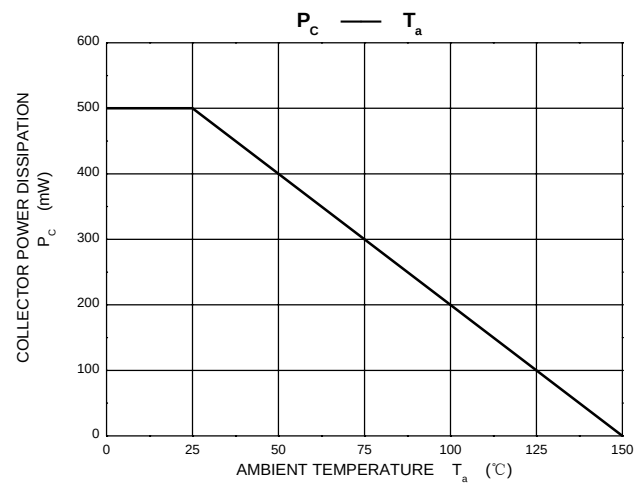
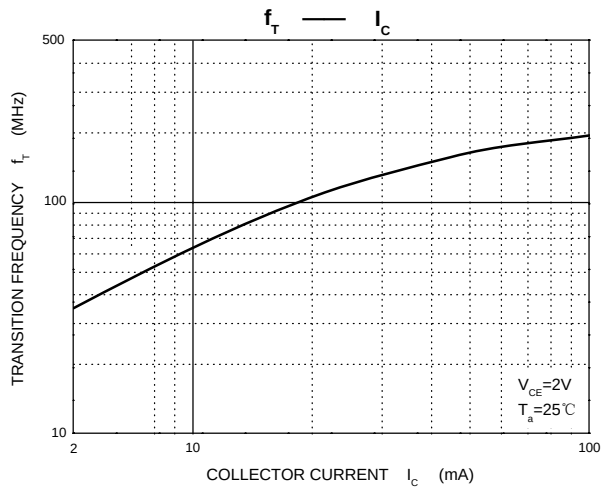
Rank	R	S
Range	180-390	270-560

• Ordering Information:

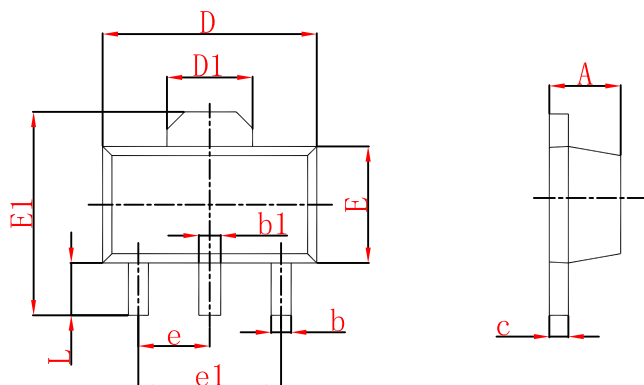
Part NO.	2SD2150
Marking	CFR/CFS
Packing Information	REEL TAPE
Basic ordering unit (pcs)	1000

• Typical Characteristics

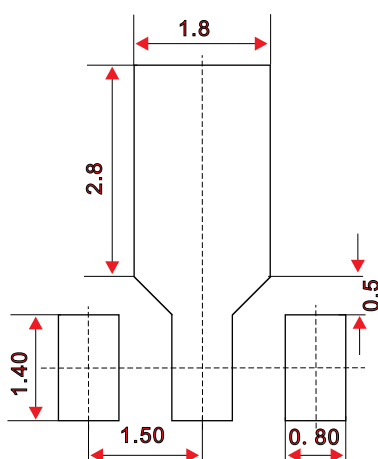




SOT-89-3L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF.		0.061 REF.	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP.		0.060 TYP.	
e1	3.000 TYP.		0.118 TYP.	
L	0.900	1.200	0.035	0.047



Note:
 1. Controlling dimension: in millimeters.
 2. General tolerance: ± 0.05 mm.
 3. The pad layout is for reference purposes only.