

**SOT-89 Plastic-Encapsulate Transistors****2SD2150** TRANSISTOR (NPN)**FEATURES**

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

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
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	A
P_C	Collector Power Dissipation	500	mW
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55-150	$^\circ\text{C}$

SOT-89

1. BASE
2. COLLECTOR
3. EMITTER

ELECTRICAL CHARACTERISTICS ($T_{amb}=25^\circ\text{C}$ unless otherwise specified)

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

*Pulse test: $t_p \leq 300\mu\text{s}, \delta \leq 0.02$.

CLASSIFICATION OF h_{FE}

Rank	R	S
Range	180-390	270-560
Marking	CFR	CFS

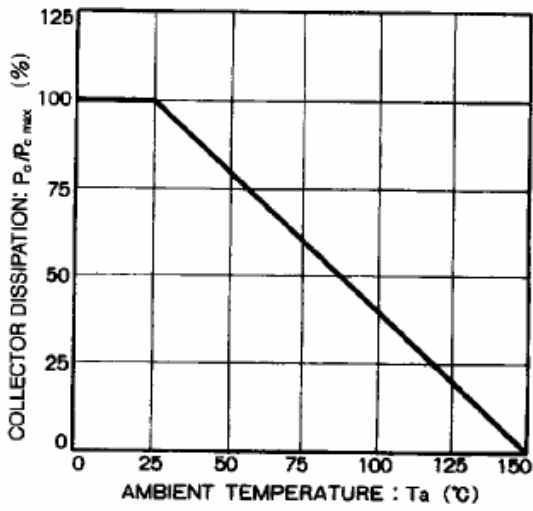


Figure 1

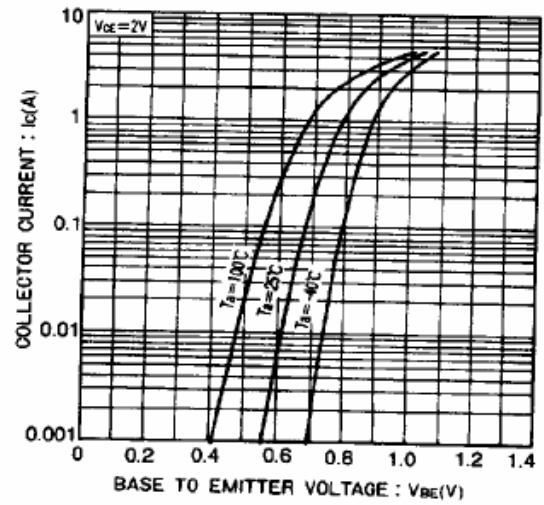


Figure 2

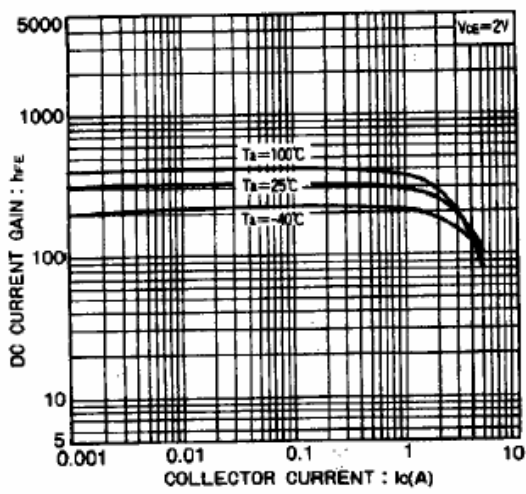


Figure 3

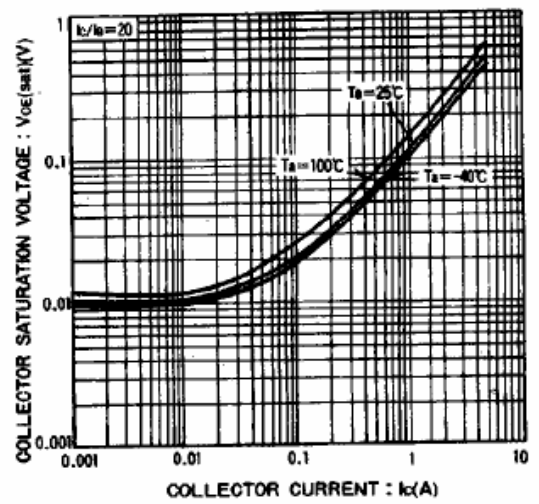


Figure 4