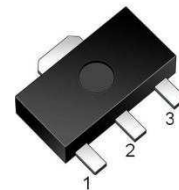


REPLACEMENT TYPE : 2SD2150
FEATURES

- Excellent Current-to-Gain Characteristics
- Low Collector Saturation Voltage Typically
 $V_{CE(sat)}=0.5V(\text{max})$ for $I_C/I_B=2A/0.1A$



SOT-89

1:BASE 2:COLLECTOR 3:EMITTER

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

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	20	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current-Continuous	I_C	3	A
Collector Power Dissipation	P_C	500	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~150	$^\circ\text{C}$

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

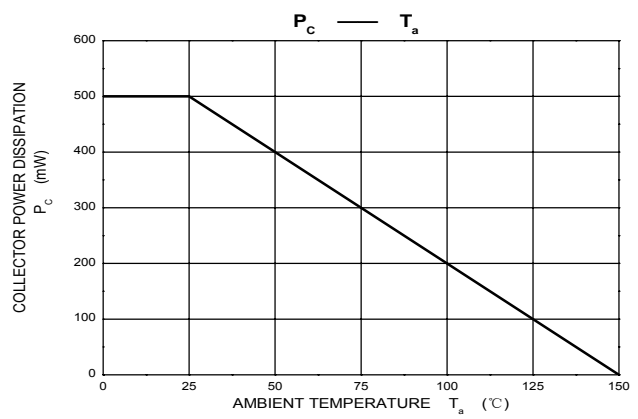
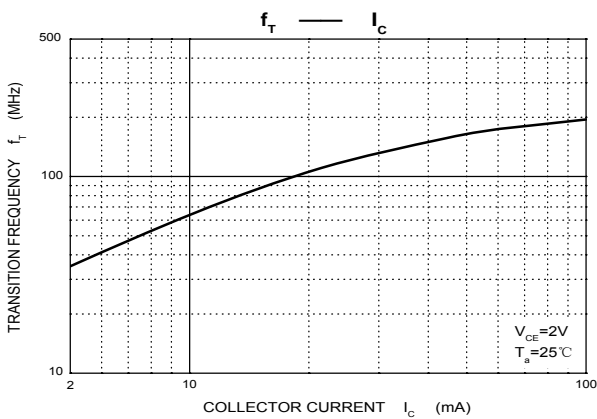
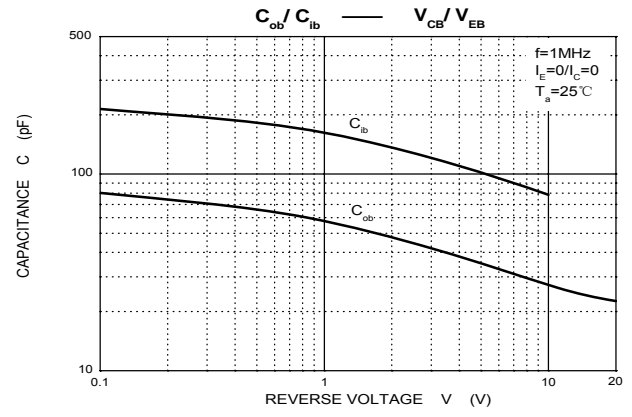
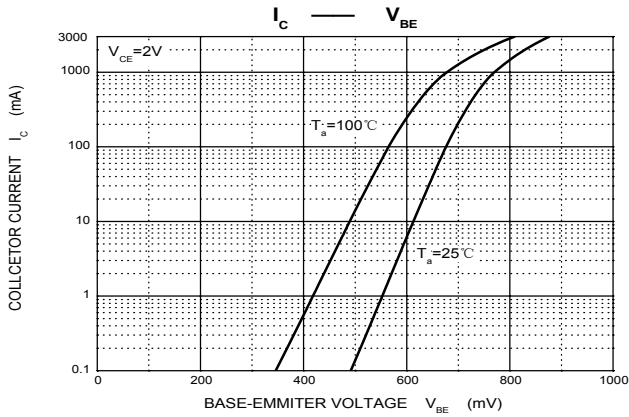
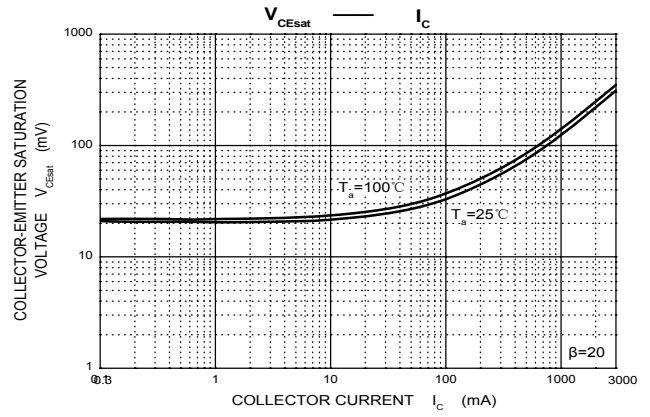
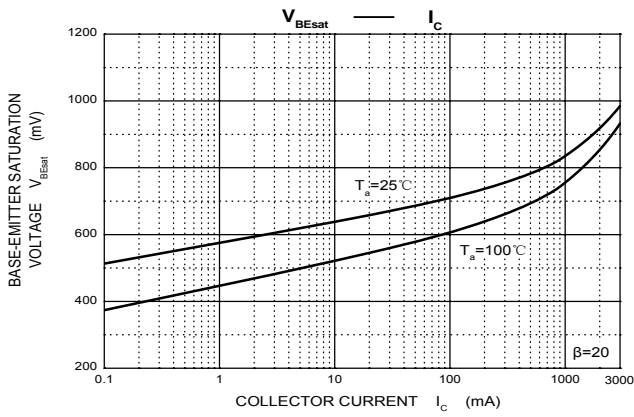
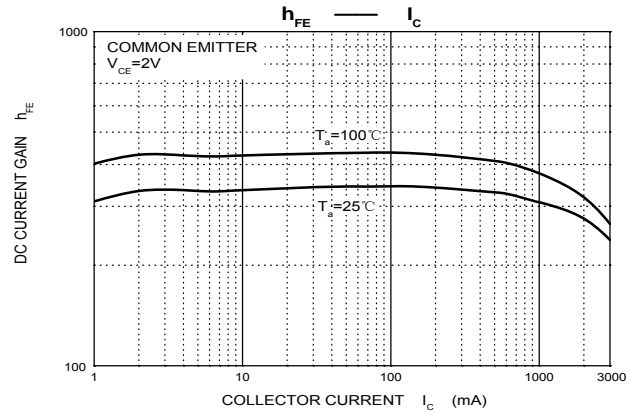
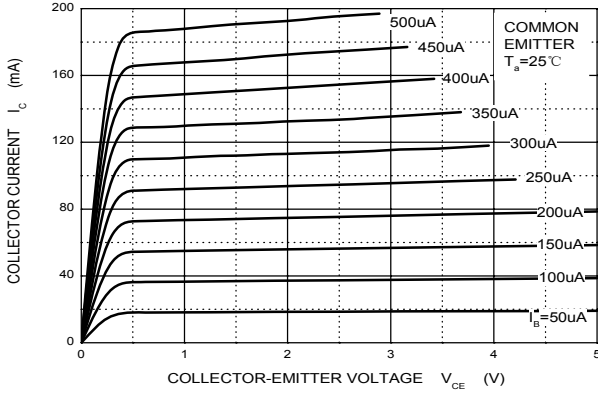
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	V_{CBO}	$I_C=50\mu A, I_E=0$	40			V
Collector-Emitter Breakdown Voltage	V_{CEO}	$I_C=1\text{mA}, I_B=0$	20			V
Emitter-Base Breakdown Voltage	V_{EBO}	$I_E=50\mu A, I_C=0$	6			V
Collector Cut-off Current	I_{CBO}	$V_{CB}=30V, I_E=0$			0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB}=5V, I_C=0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=2V, I_C=100\text{mA}$	180		560	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=2A, I_B=100\text{mA}$			0.5	V
Transition Frequency	f_T	$V_{CE}=2V, I_C=500\text{mA}, f=100\text{MHz}$		290		MHz
Output Capacitance	C_{OB}	$V_{CB}=10V, I_E=0A, f=1\text{MHz}$		25		pF

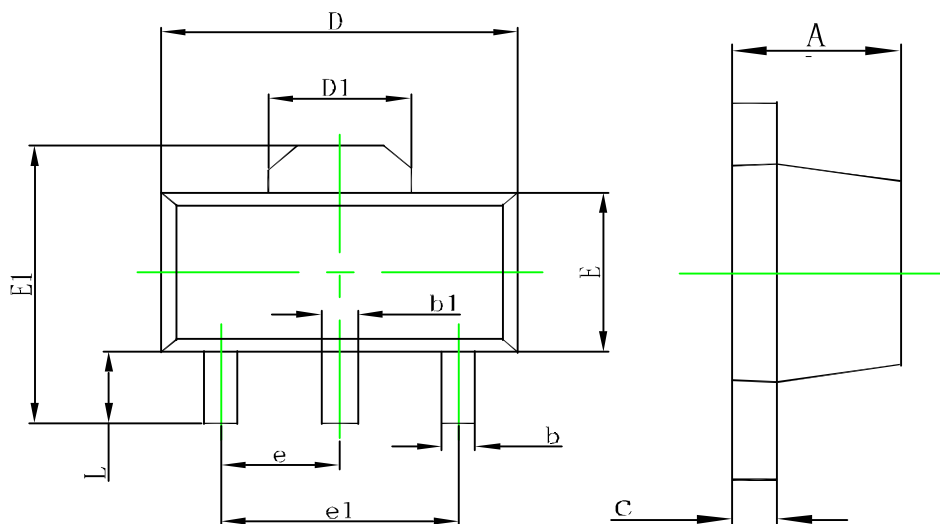
CLASSIFICATION OF h_{FE}

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

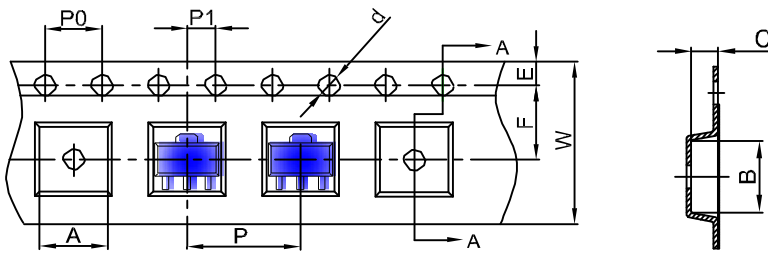
Typical Characteristics

Static Characteristic

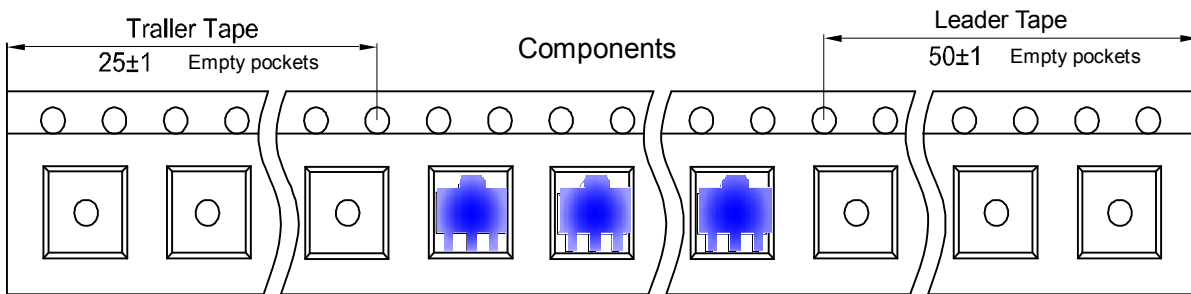
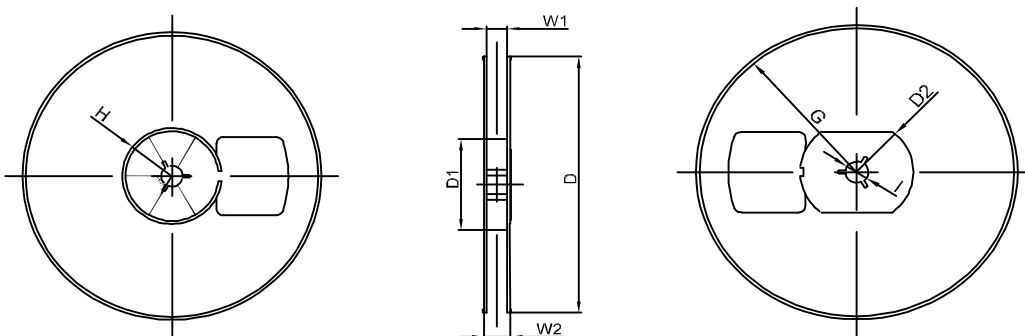


SOT-89 Package Outline Dimensions


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	1.550REF.		0.061REF.	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500TYP.		0.060TYP.	
e1	3.000TYP.		0.118TYP.	
L	0.900	1.200	0.035	0.047

SOT-89 Tape and Reel


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOT-89	4.85	4.45	1.85	$\phi 1.50$	1.75	5.50	4.00	8.00	2.00	12.00
TOLERANCE	± 0.1	± 0.1	± 0.1	± 0.1	± 0.1	± 0.1	± 0.1	± 0.1	± 0.1	± 0.1

SOT-89 Tape Leader and Trailer

SOT-89 Reel


DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
7" DIA	$\phi 180$	60.00	R32.00	R86.50	R30.00	$\phi 13.00$	13.20	16.50
TOLERANCE	± 2	± 1	± 1	± 1	± 1	± 1	± 1	± 1