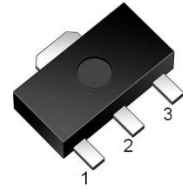


REPLACEMENT TYPE : 2SD1005
FEATURES

- Small Flat Package
- High Breakdown Voltage
- Excellent DC Current Gain Linearity



SOT-89

1:BASE 2:COLLECTOR 3:EMITTER

MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	100	V
Collector-Emitter Voltage	V _{CEO}	80	V
Emitter-Base Voltage	V _{EBO}	5	V
Collector Current-Continuous	I _C	1	A
Collector Power Dissipation	P _C	500	mW
Thermal Resistance From Junction to Ambient	R _{θJA}	250	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{stg}	-55~+150	°C

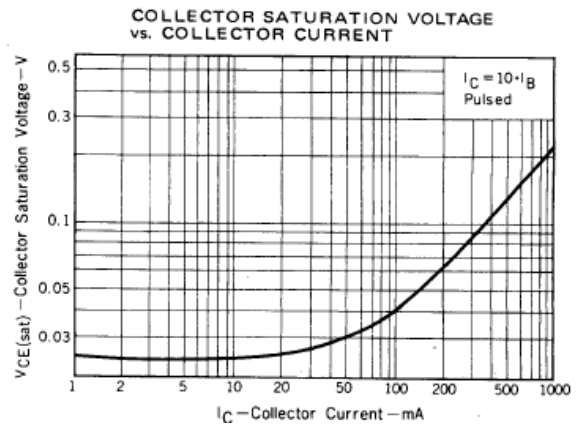
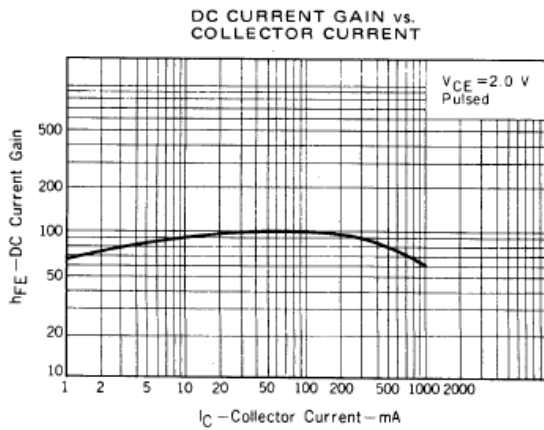
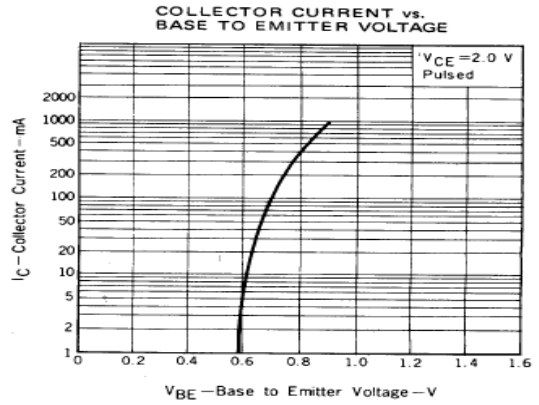
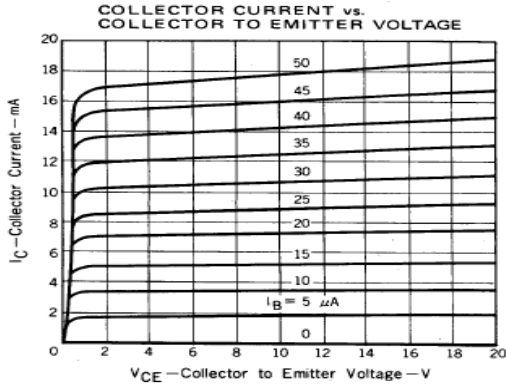
ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

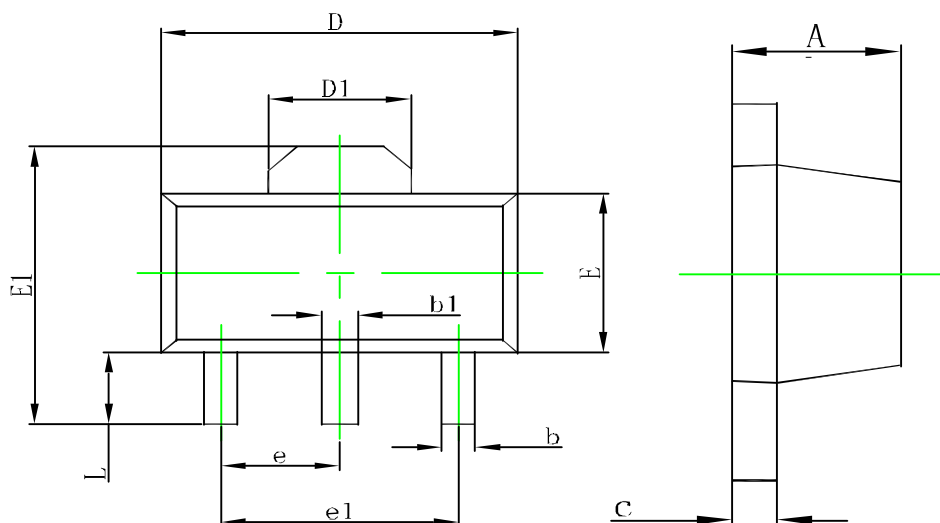
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	V _{CBO}	I _C =0.1mA, I _E =0	100			V
Collector-Emitter Breakdown Voltage	V _{CEO}	I _C =1mA, I _B =0	80			V
Emitter-Base Breakdown Voltage	V _{EBO}	I _E =0.1mA, I _C =0	5			V
Collector Cut-off Current	I _{CBO}	V _{CB} =100V, I _E =0			0.1	uA
Emitter Cut-off Current	I _{EBO}	V _{EB} =5V, I _C =0			0.1	uA
DC Current Gain(note)	h _{FE}	V _{CE} =2V, I _C =100mA	90		400	
	h _{FE}	V _{CE} =2V, I _C =500mA	25			
Collector-Emitter Saturation Voltage	V _{CE(sat)}	I _C =500mA, I _B =50mA			0.5	V
Base-Emitter Saturation Voltage	V _{BE(sat)}	I _C =500mA, I _B =50mA			1.5	V
Base-Emitter Voltage	V _{BE}	V _{CE} =10V, I _C =10mA	0.6		0.7	V
Transition Frequency	f _T	V _{CE} =5V, I _C =10mA		160		MHz
Output Capacitance	C _{OB}	V _{CB} =10V, I _E =0A, f=1MHz		12		pF

CLASSIFICATION OF h_{FE}

Rank	W	V	U
Range	90-180	135-270	200-400
Marking	BW	BV	BU

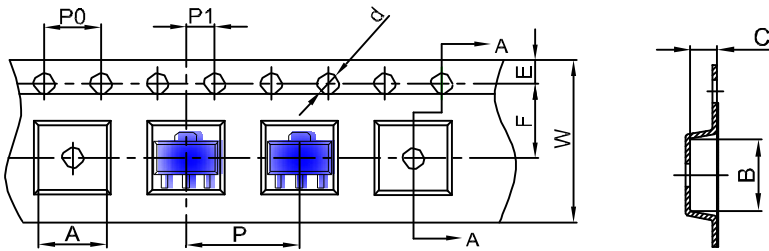
Typical Characteristics



SOT-89 Package Outline Dimensions


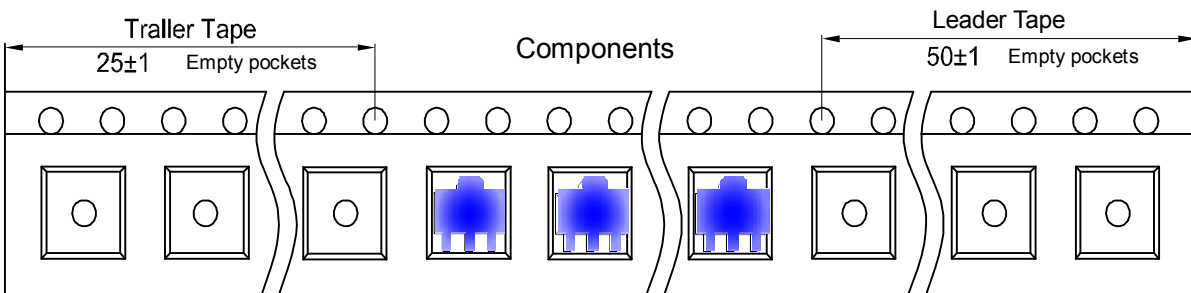
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550REF.		0.061REF.	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500TYP.		0.060TYP.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

SOT-89 Tape and Reel

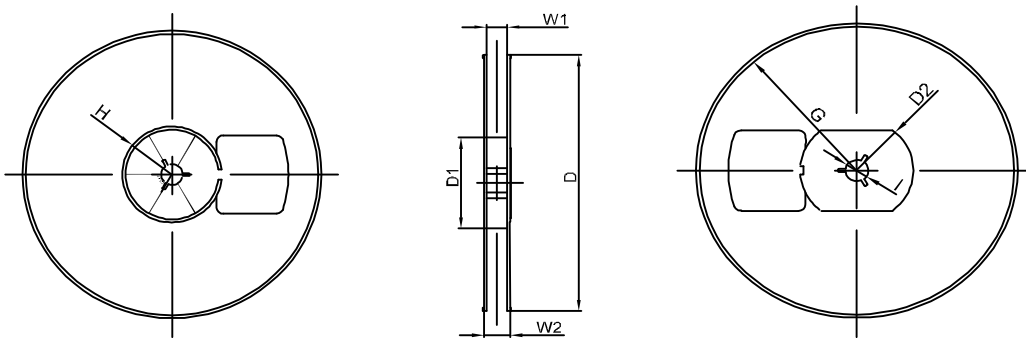


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOT-89	4.85	4.45	1.85	φ1.50	1.75	5.50	4.00	8.00	2.00	12.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

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	φ 180	60.00	R32.00	R86.50	R30.00	φ 13.00	13.20	16.50
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1