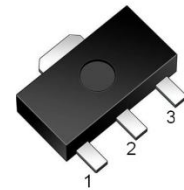


REPLACEMENT TYPE :2SA1661
FEATURES

- Small Flat Package
- High Current Application
- High Voltage
- High Transition Frequency



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}	-120	V
Collector-Emitter Voltage	V_{CEO}	-120	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current-Continuous	I_C	-0.8	A
Collector Power Dissipation	P_C	500	mW
Thermal Resistance From Junction to Ambient	$R_{\theta JA}$	250	$^\circ\text{C/W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~150	$^\circ\text{C}$

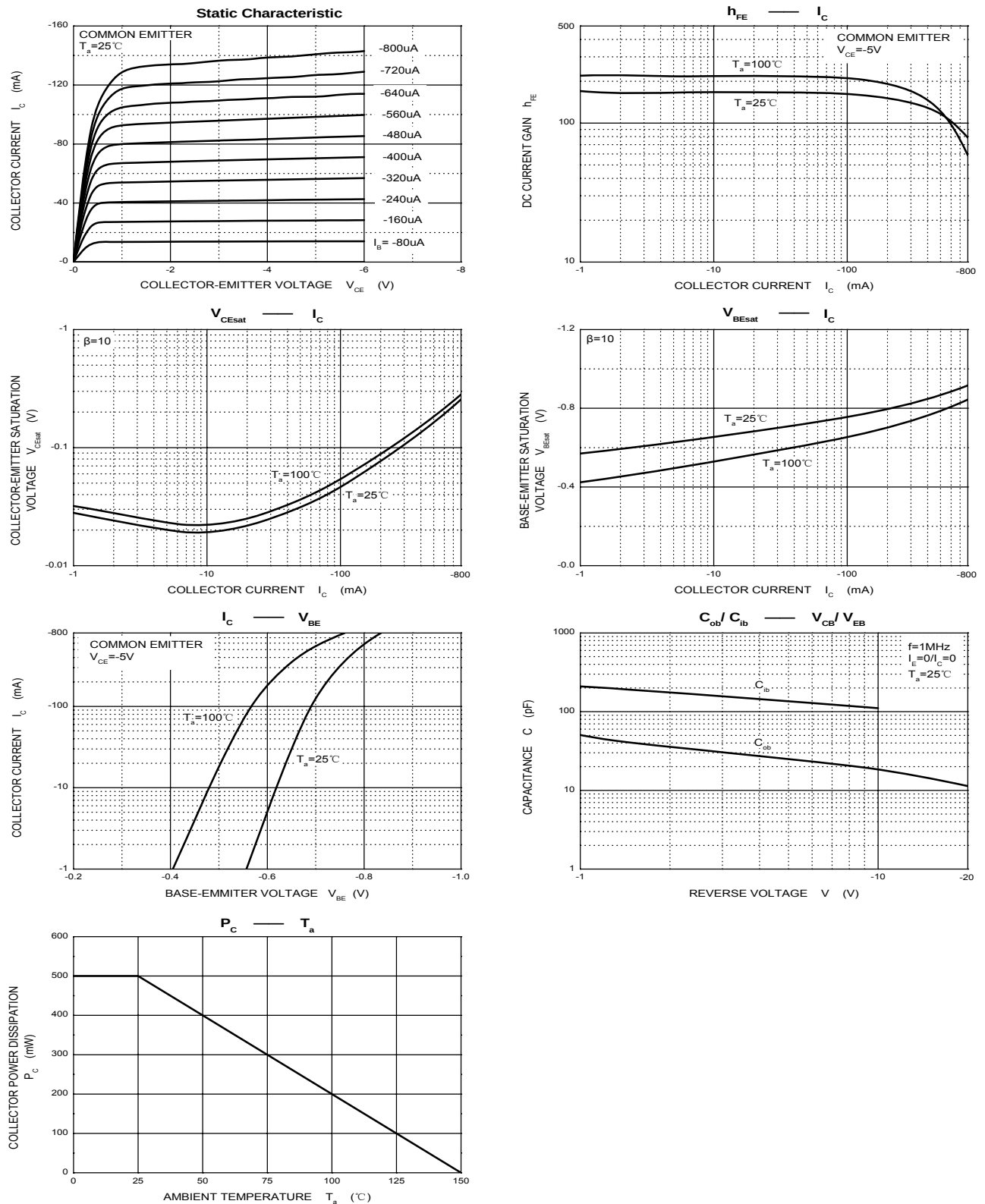
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

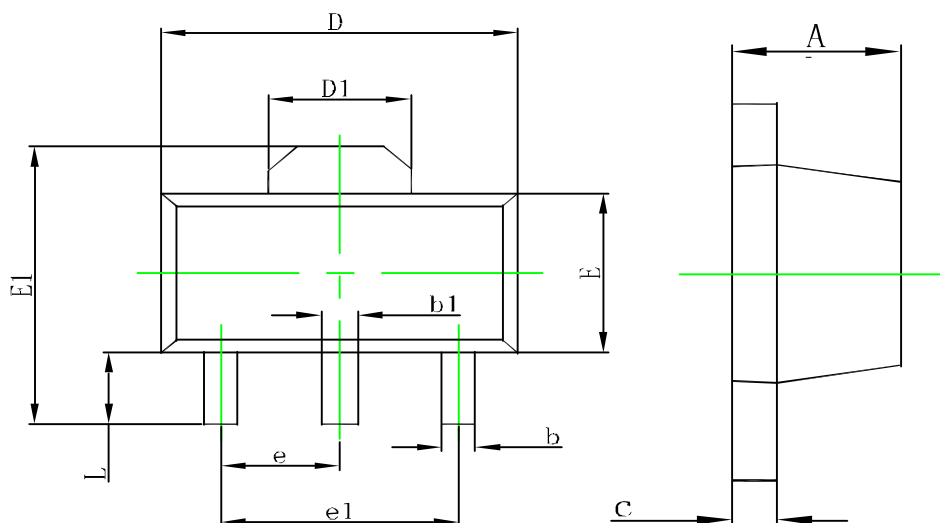
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	V_{CBO}	$I_C = -1\text{mA}, I_E = 0$	-120			V
Collector-Emitter Breakdown Voltage	V_{CEO}	$I_C = -10\text{mA}, I_B = 0$	-120			V
Emitter-Base Break Down Voltage	V_{EBO}	$I_E = -1\text{mA}, I_C = 0$	-5			V
Collector Cut-off Current	I_{CBO}	$V_{CB} = -120\text{V}, I_E = 0$			-100	nA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -5\text{V}, I_C = 0$			-100	nA
DC Current Gain	$h_{FE(1)}$	$V_{CE} = -5\text{V}, I_C = -100\text{mA}$	80		240	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -500\text{mA}, I_B = -50\text{mA}$			-1	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$V_{CE} = -5\text{V}, I_C = -500\text{mA}$			-1	V
Collector Output Capacitance	C_{OB}	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$			30	pF
Transition Frequency	f_T	$V_{CE} = -5\text{V}, I_C = -0.1\text{A}, f = 30\text{MHz}$		120		MHz

CLASSIFICATION OF h_{FE}

Rank	O	Y
Range	80-160	120-240
Marking	DO	DY

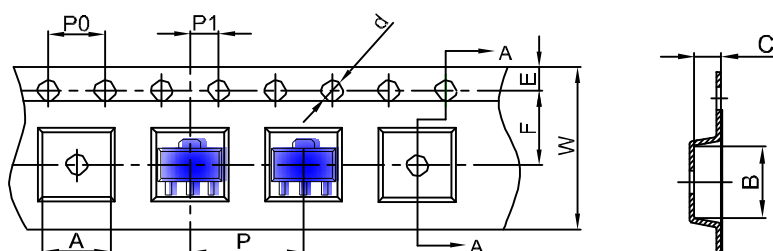
Typical Characteristics



SOT-89 Package Outline Dimensions


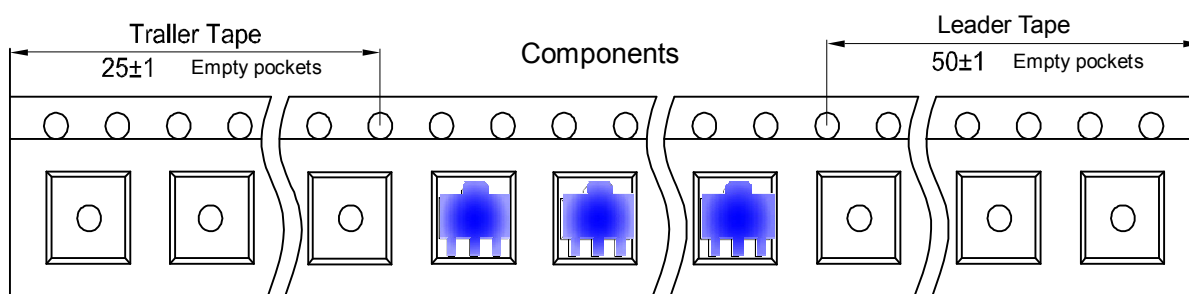
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550REF.		0.061REF.	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500TYP.		0.060TYP.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

SOT-89 Tape and Reel

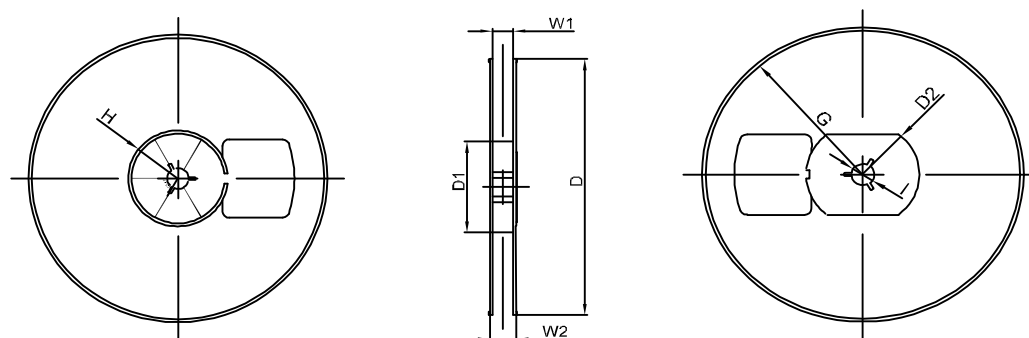


	DIMENSIONS ARE IN MILLIMETER									
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOT-89	4.85	4.45	1.85	$\phi 1.50$	1.75	5.50	4.00	8.00	2.00	12.00
TOLERANCE	± 0.1	± 0.1	± 0.1	± 0.1	± 0.1	± 0.1	± 0.1	± 0.1	± 0.1	± 0.1

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