

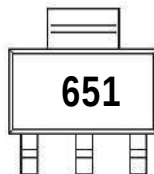
SOT-89-3L Plastic-Encapsulate Transistors

TRANSISTOR (NPN)

■ Features

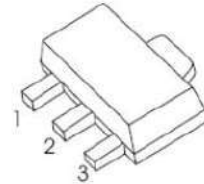
- 60 Volt V_{CEO} .
- 3 Amp continuous current.
- Low saturation voltage.

MARKING:



SOT-89-3L

1. BASE
2. COLLECTOR
3. EMITTER



■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

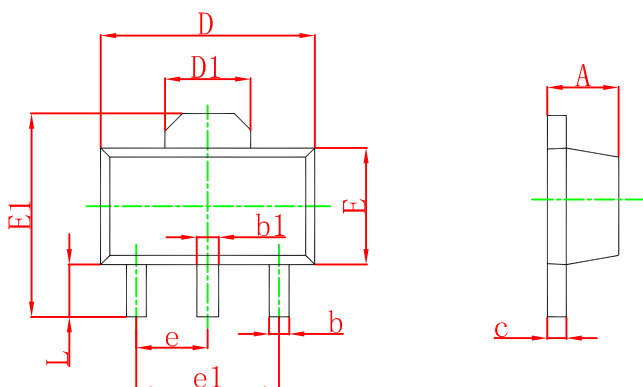
Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	80	V
Collector-emitter voltage	V_{CEO}	60	V
Emitter-base voltage	V_{EBO}	7	V
Peak pulse current	I_C	3	A
Continuous collector current	I_{CM}	6	A
Power dissipation	P_{tot}	2	W
Operating and storage temperature range	T_j, T_{stg}	-55 to +150	$^\circ\text{C}$

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}$	80			V
Collector-emitter breakdown voltage *	$V_{(BR)CEO}$	$I_C=10\text{mA}$	60			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}$	5			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=60\text{V}$ $V_{CB}=60\text{V}, T_a = 100^\circ\text{C}$			0.1 10	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=4\text{V}$			0.1	μA
Collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C=1\text{A}, I_B=100\text{mA}$ $I_C=3\text{A}, I_B=300\text{mA}$		0.12 0.43	0.3 0.6	V
Base-emitter saturation voltage *	$V_{BE(sat)}$	$I_C=1\text{A}, I_B=100\text{mA}$		0.9	1.25	V
Base-Emitter Turn-On Voltage *	$V_{BE(on)}$	$I_C=1\text{A}, V_{CE}=2\text{V}$		0.8	1	V
Static Forward Current Transfer Ratio	h_{FE}	$I_C=50\text{mA}, V_{CE}=2\text{V}^*$	70	200		
		$I_C=500\text{mA}, V_{CE}=2\text{V}^*$	100	200	300	
		$I_C=1\text{A}, V_{CE}=2\text{V}^*$	80	170		
		$I_C=2\text{A}, V_{CE}=2\text{V}^*$	40	80		
Transitional frequency	f_T	$I_C=100\text{mA}, V_{CE}=5\text{V}, f=100\text{MHz}$	140	175		MHz
Output capacitance	C_{obo}	$V_{CB}=10\text{V}, f=1\text{MHz}$			30	pF
Switching times	t_{on}	$I_C=500\text{mA}, V_{CC}=10\text{V}, I_{B1}=I_{B2}=50\text{mA}$		45		ns
	t_{off}			800		ns

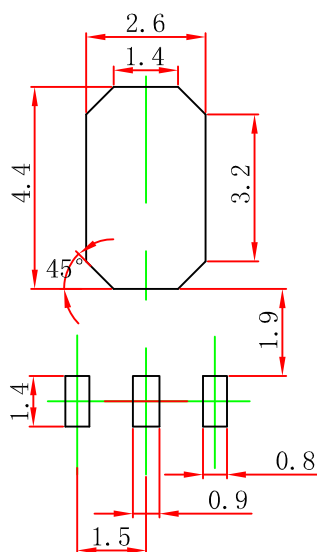
* Pulse test: $t_p = 300 \mu\text{s}$; $d \leq 0.02$.

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

SOT-89-3L Suggested Pad Layout

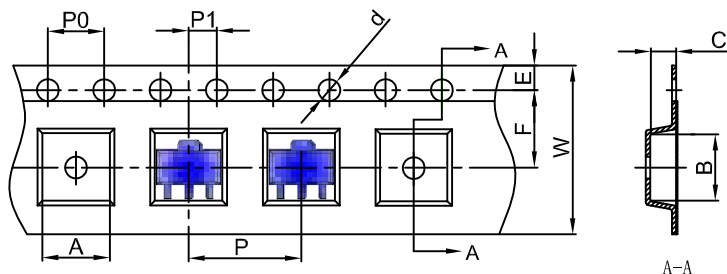


Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

SOT-89-3L Tape and Reel

SOT-89-3L Embossed Carrier Tape

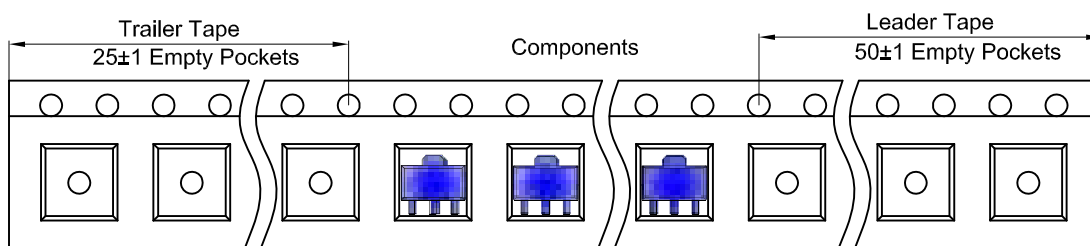


Packaging Description:

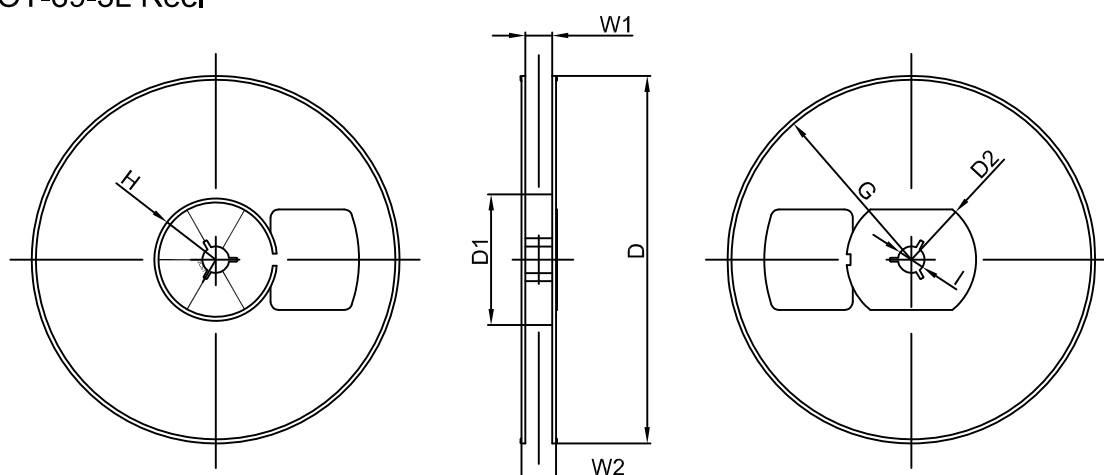
SOT-89-3L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 1,000 units per 7" or 18.0 cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-89-3L	4.85	4.45	1.85	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00

SOT-89-3L Tape Leader and Trailer



SOT-89-3L Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Ø180.00	60.00	R32.00	R86.50	R30.00	Ø13.00	13.20	16.50

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
1000 pcs	7 inch	10,000 pcs	203×203×195	40,000 pcs	438×438×220	