JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD.

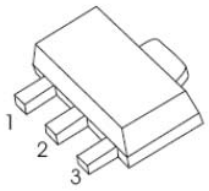
SOT-89-3L Plastic-Encapsulate Transistors

2SD1616A TRANSISTOR（NPN）

FEATURES

- Low collector saturation voltage
- High break down voltage
- High total power dissipation

SOT-89-3L



1. BASE
2. COLLETOR
3. EMITTER

MARKING:1616A



Solid dot = Green molding compound device.

MAXIMUM RATINGS (Ta=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	120	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	1	A
P_C①	Collector Power Dissipation	0.5	W
$R_{\theta JA}$②	Thermal Resistance, junction to Ambient	250	℃/W
$R_{\theta JC}$①	Thermal Resistance, junction to Case	10	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=10μA , I_E=0	120			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=2mA , I_B=0	60			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=10μA, I_C=0	6			V
Collector cut-off current	I_{CBO}	V_{CB}=60V, I_E=0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=6V, I_C=0			0.1	μA
DC current gain*	h_{FE1}	V_{CE}=2V, I_C=100mA	135		600	
	h_{FE2}	V_{CE}=2V, I_C=1A	81			
Collector-emitter saturation voltage *	$V_{CE(sat)}$	I_C= 1A, I_B=50mA			0.3	V
Base-emitter saturation voltage *	$V_{BE(sat)}$	I_C= 1A, I_B=50mA			1.2	V
Base-emitter voltage *	V_{BE}	V_{CE}= 2V, I_C=50mA	0.6		0.7	V
Transition frequency	f_T	V_{CE}=2V, I_C= 100mA	100			MHz
Output capacitance	C_{ob}	V_{CB}=10 V,I_E= 0, f=1MHz			19	pF
Turn on time	t_{on}	Vcc=10V, I_C=100mA, I_{B1}=-I_{B2}=10mA		0.07		μs
Storage time	t_S			0.95		μs
Fall time	t_F			0.07		μs

*pulse test: PW≤350μs, δ≤2%.

CLASSIFICATION of h_{FE1}

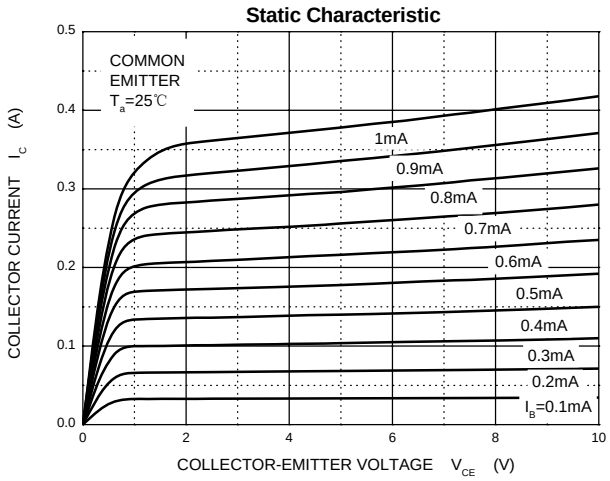
Rank	L	K	U
Range	135-270	200-400	300-600

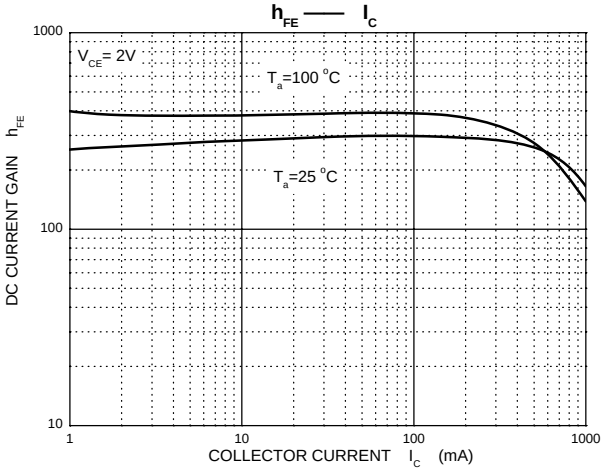
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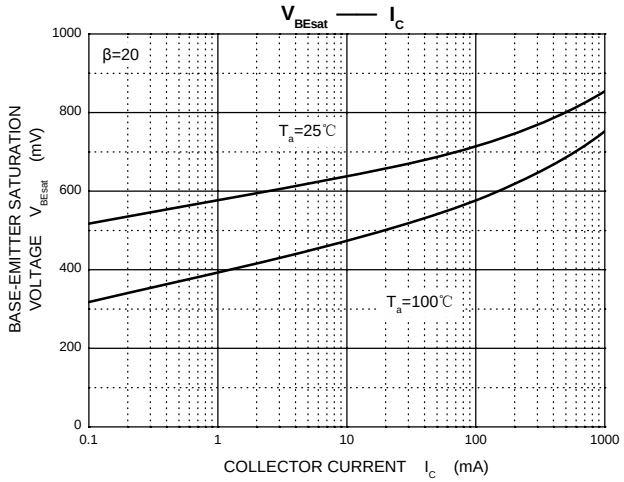
1.T_C=25 ℃.

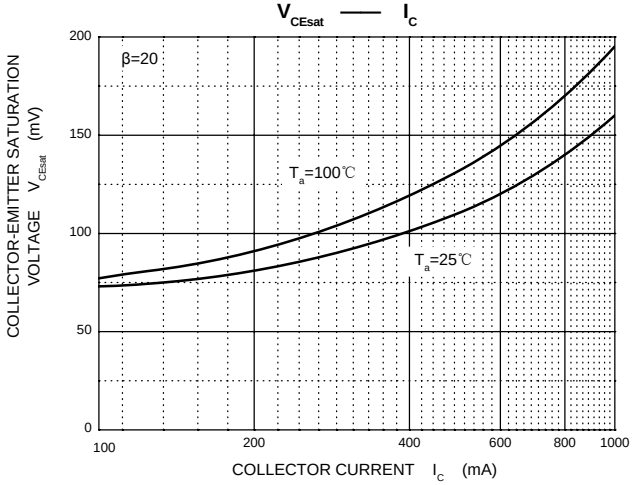
2.The value of RθJA is measured with the device mounted on 1 in² FR-4 board in a still air environment with T_A=25 ℃.

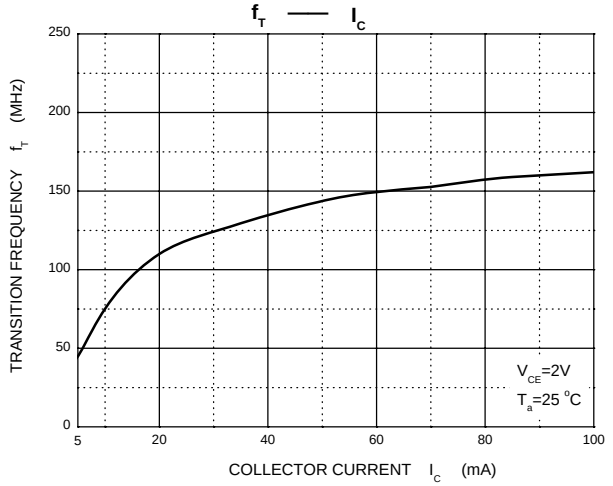
Typical Characteristics

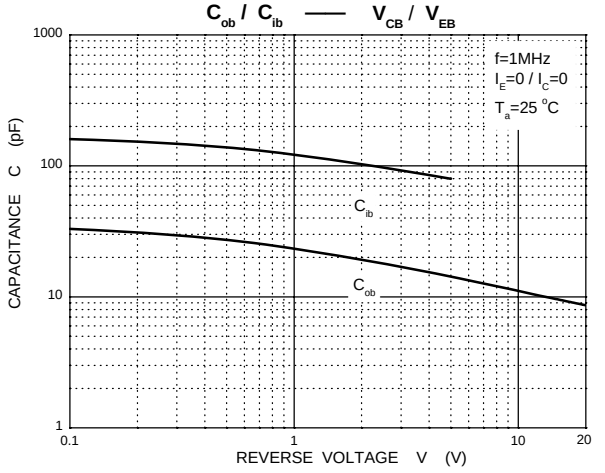


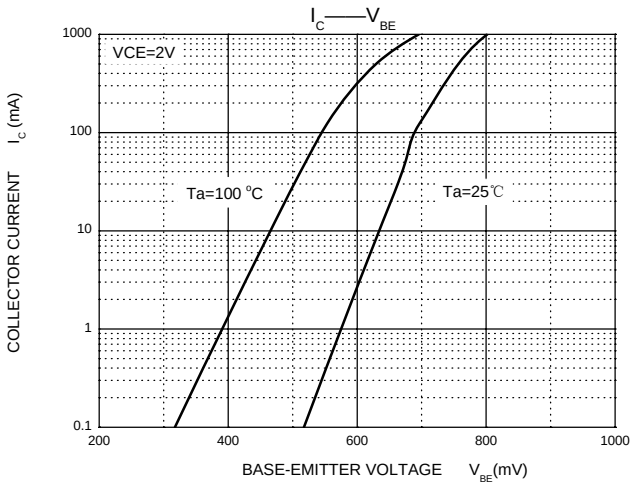


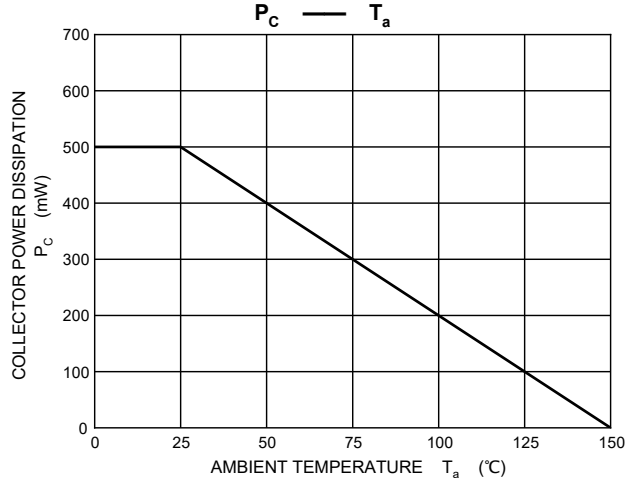




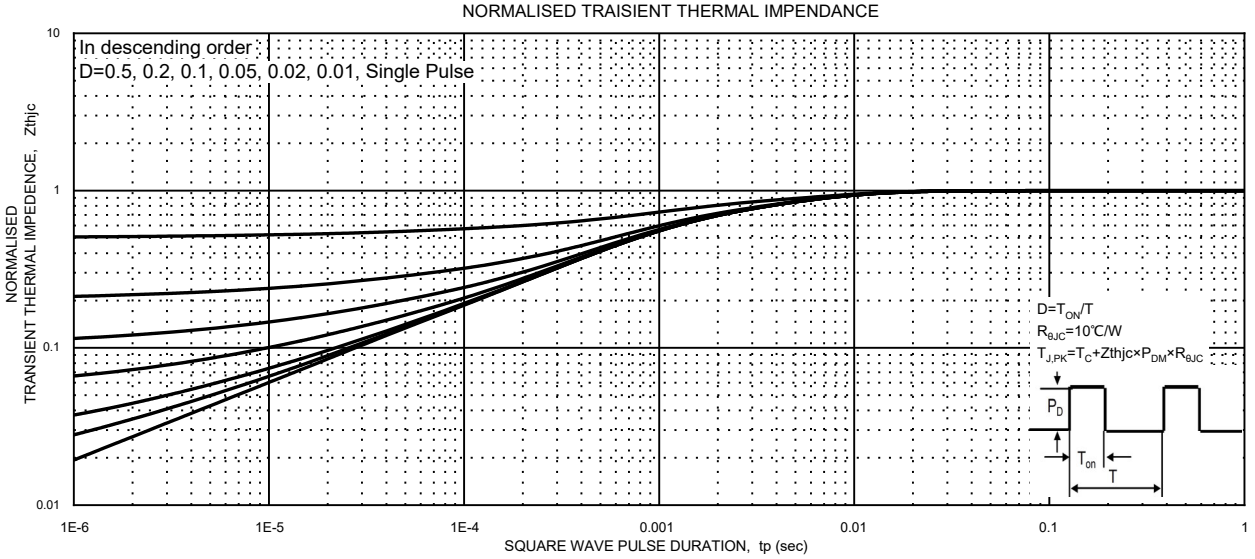


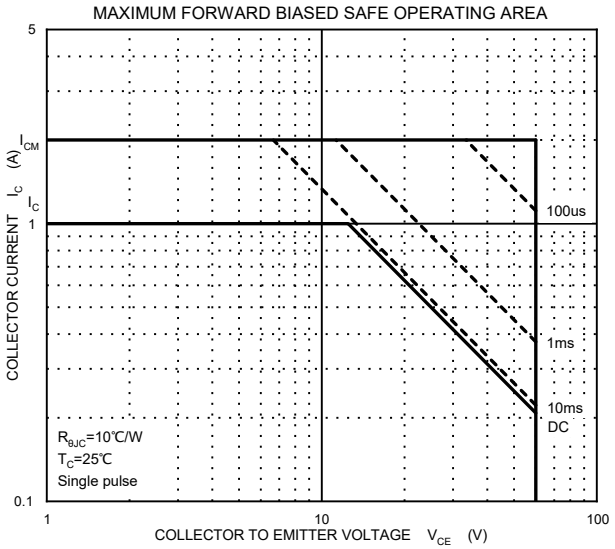




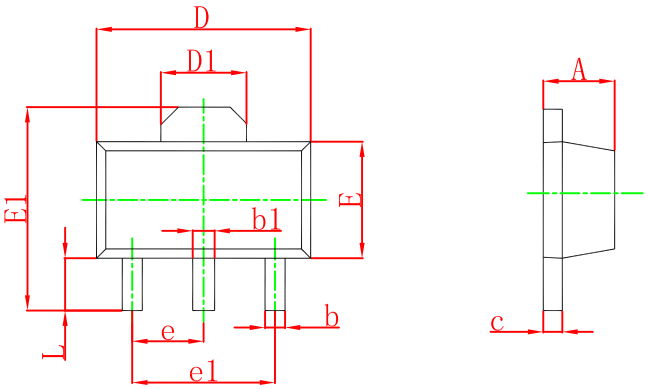


Typical Characteristics



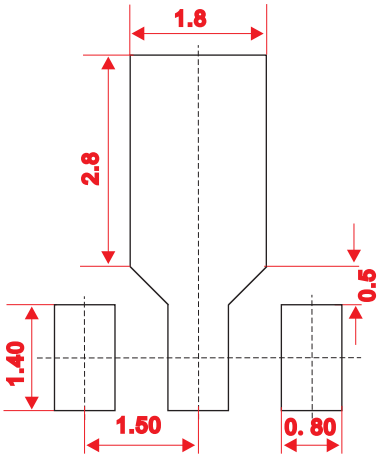


SOT-89-3L Package Outline Dimensions



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

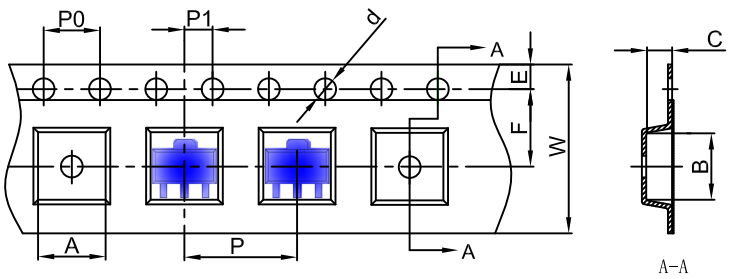


Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.05mm.
3.The pad layout is for reference purposes only.

NOTICE
JSCJ reserves the right to make modifications,enhancements,improvements,corrections or other changes without further notice to any product herein. JSCJ does not assume any liability arising out of the application or use of any product described herein.

SOT-89-3L Tape and Reel

SOT-89-3L Embossed Carrier Tape

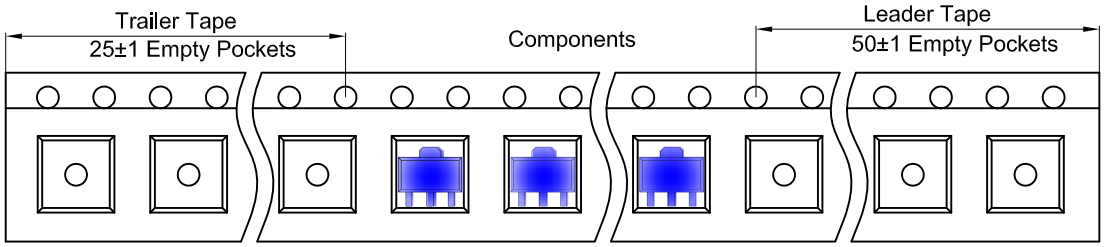


Packaging Description:

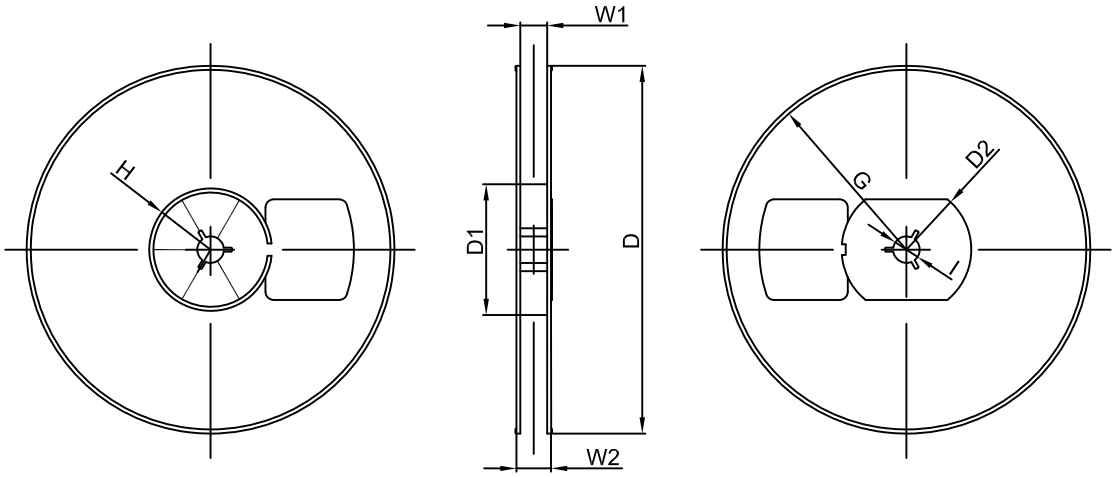
SOT-89-3L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts 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	