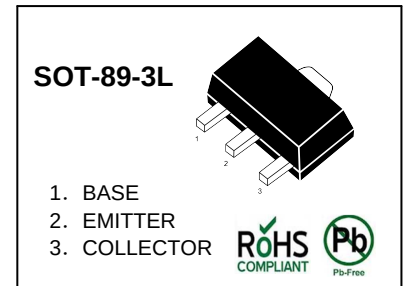


Plastic-Encapsulate Transistors

NPN Silicon Transistor

The 2SD1616U / 2SD1616AU are designed for use in driver and output stages of AF amplifier general purpose application.



The transistor is subdivided into three groups R, O and Y, according to its DC current gain

FEATURES

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

2SD1616U:1616

2SD1616AU:1616A

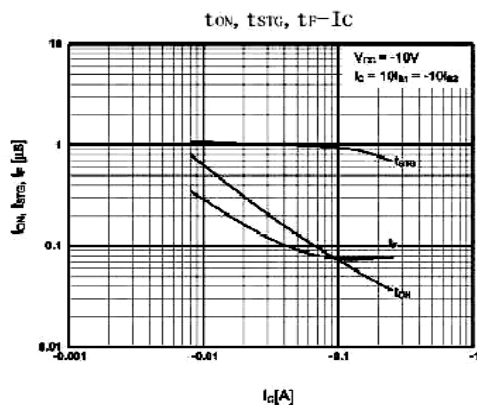
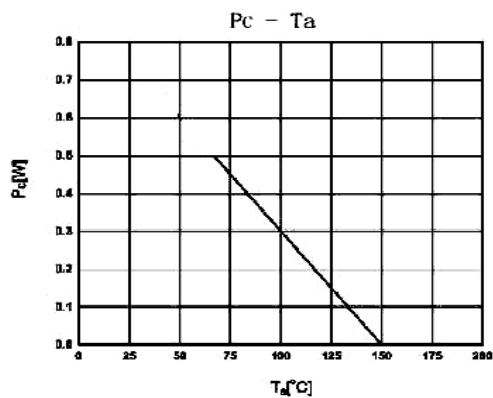
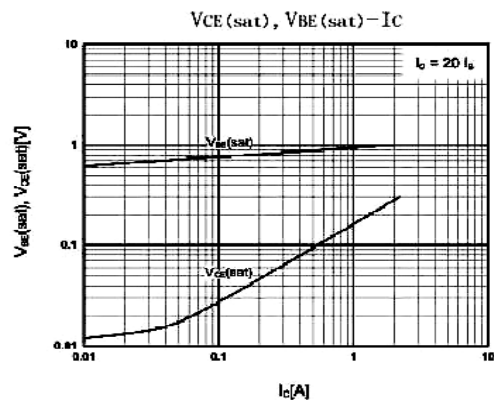
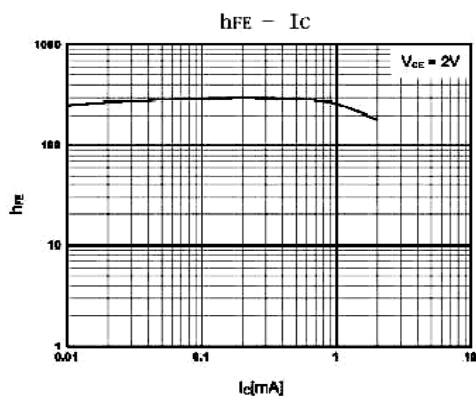
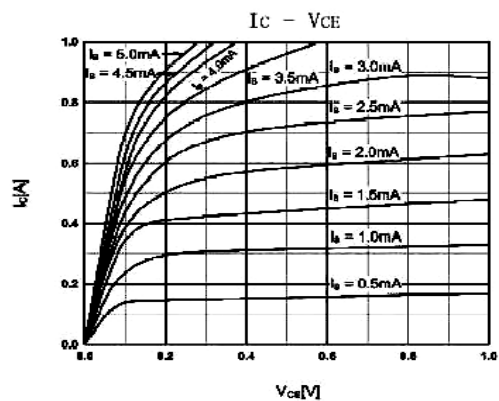
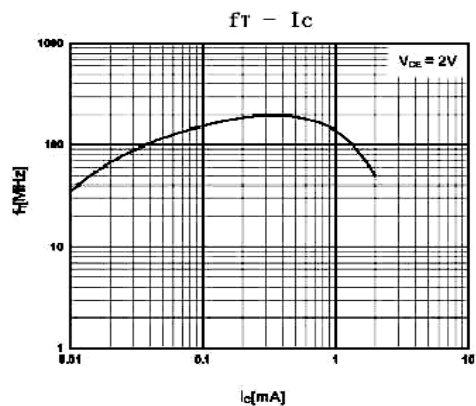
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter		Symbol	Value	Unit
Collector Base Voltage	2SD1616U	V_{CBO}	60	V
	2SD1616AU		120	
Collector Emitter Voltage	2SD1616U	V_{CEO}	50	V
	2SD1616AU		60	
Emitter Base Voltage		V_{EBO}	6	V
Collector Current (DC)		I_C	1	A
Collector Current (pulse) ¹⁾		I_C	2	A
Power Dissipation		P_{tot}	0.5	W
Junction Temperature		T_j	150	$^\circ\text{C}$
Storage Temperature Range		T_s	-55 to +150	$^\circ\text{C}$
1) $PW \leq 10\text{ms}$, Duty Cycle $\leq 50\%$				

Characteristics at $T_{amb}=25^{\circ}\text{C}$

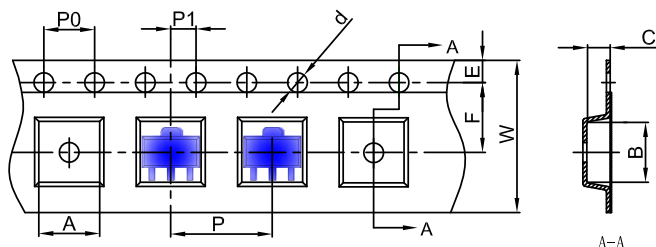
Parameter		Symbol	Min.	Typ.	Max.	Unit	
DC Current Gain ²⁾ at V _{CE} =2V, I _C =100mA at V _{CE} =2V, I _C =1A		R O Y	h _{FE}	135	-	270	-
			h _{FE}	200	-	400	-
			h _{FE}	300	-	600	-
			h _{FE}	81	-	-	-
Base Emitter Voltage ²⁾ at V _{CE} =2V ,I _C =50mA		V _{BE}	600		700	mV	
Collector Cutoff Current at V _{CB} =60V/120V		I _{CBO}	-	-	100	nA	
Emitter Cutoff Current at V _{EB} =6V		I _{EBO}	-	-	100	nA	
Collector Saturation Voltage ²⁾ at I _C =1A, I _B =50mA		V _{CE(sat)}	-	0.15	0.3	V	
Base Saturation Voltage ²⁾ at I _C =1A, I _B =50mA		V _{BE(sat)}	-	0.9	1.2	V	
Gain Bandwidth Product at V _{CE} =2V, I _C =-100mA		f _T	100	160	-	MHz	
Output Capacitance at V _{CB} =10V, f=1MHz		C _{OB}	-	19	-	pF	
Turn-on Time	at V _{CC} =10V, I _C =-100mA I _{B1} =-I _{B2} =10 mA V _{BE(off)} =-2 to 3 V	t _{on}	-	0.07	-	μs	
Storage Time		t _{stg}	-	0.95	-	μs	
Fall Time		t _f	-	0.07	-	μs	
2) Pulsed PW≤350μs, Duty Cycle≤2%							

Typical Characteristics



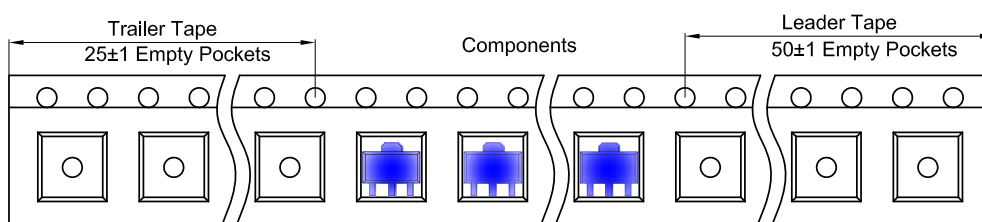
SOT-89-3L Tape and Reel

SOT-89-3L Embossed Carrier Tape

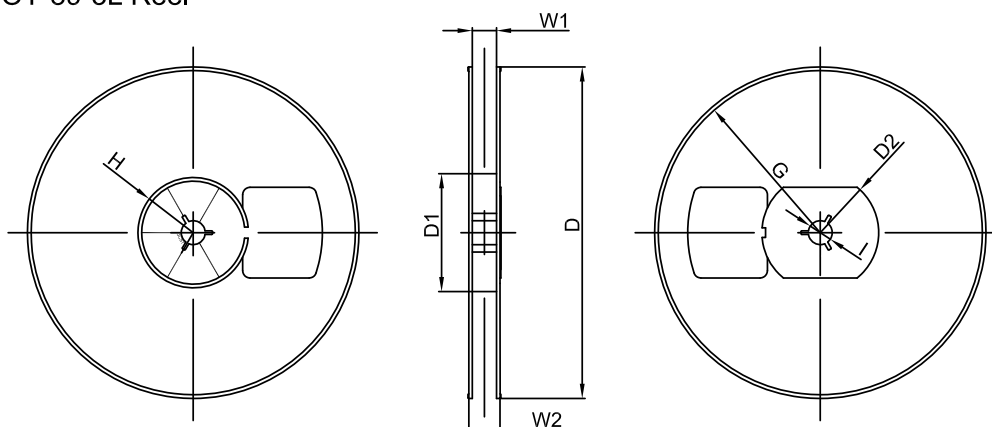


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-89-3L	4.85	4.45	1.85	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00

SOT-89-3L Tape Leader and Trailer

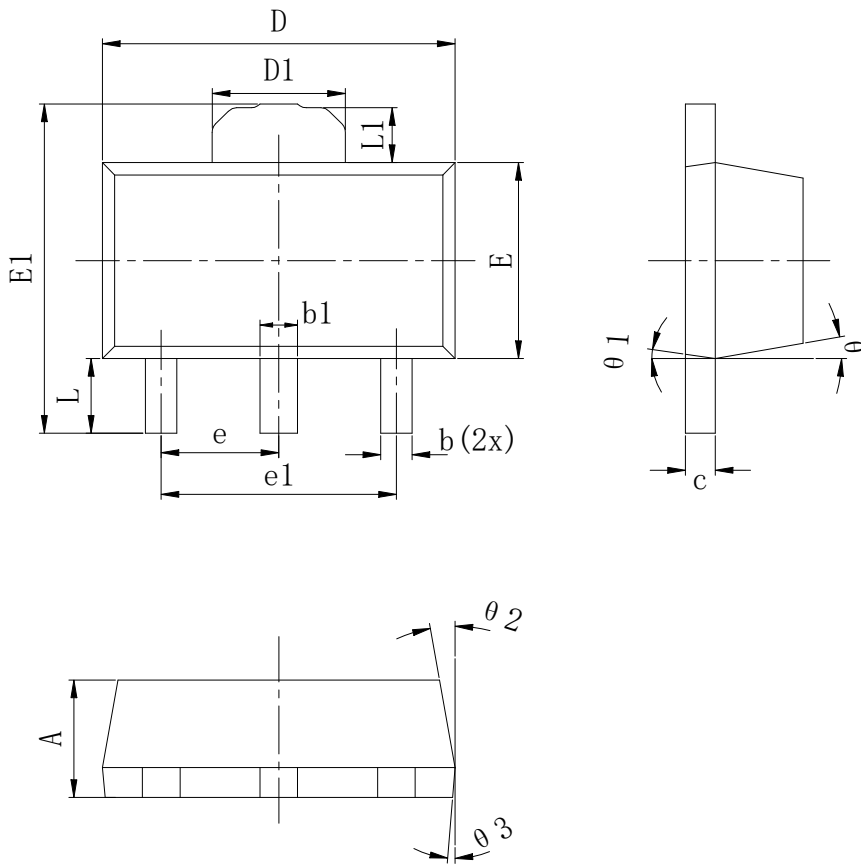


SOT-89-3L Reel



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	



SYMBOL	MILLIMETER		
	MIN	TYP.	MAX
A	1.400	1.500	1.600
b	0.320	0.400	0.520
b1	0.400	0.480	0.580
c	0.350	0.381	0.440
D	4.400	4.500	4.600
D1	1.700REF		
E	2.400	2.500	2.600
E1	4.050	4.200	4.350
e	1.500TYP.		
e1	3.000TYP.		
L	0.800	0.950	1.200
L1	0.700REF		
θ	10° REF		
θ 1	8° REF		
θ 2	10° REF		
θ 3	5° REF		

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