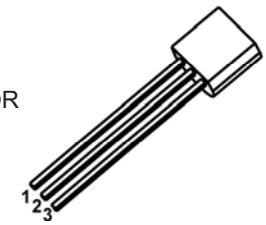
TRANSISTOR(NPN)

TO-92

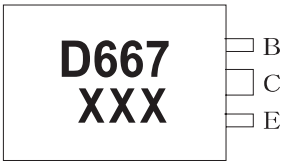
1. EMITTER
2. COLLECTOR
3. BASE



FEATURES

- Low Frequency Power Amplifier
- Complementary Pair with 2SB647/A

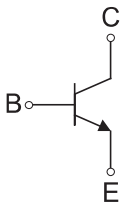
MARKING



D667=Device code
XXX=Code

D667A=Device code
XXX=Code

Equivalent Circuit



ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
2SD667	TO-92	Bulk	1000 pcs/Bag
2SD667-TA	TO-92	Tape	2000pcs/Box
2SD667A	TO-92	Bulk	1000 pcs/Bag
2SD667A-TA	TO-92	Tape	2000pcs/Box

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter		Value	Unit
V_{CBO}	Collector- Base Voltage		120	V
V_{CEO}	Collector-Emitter Voltage	2SD667	80	V
		2SD667A	100	
V_{EBO}	Emitter-Base Voltage		5	V
I_C	Collector Current -Continuous		1	A
P_C	Collector Power Dissipation		900	mW
T_J,T_{stg}	Operation Junction and Storage Temperature Range		-55-150	℃

ELECTRICAL CHARACTERISTICS

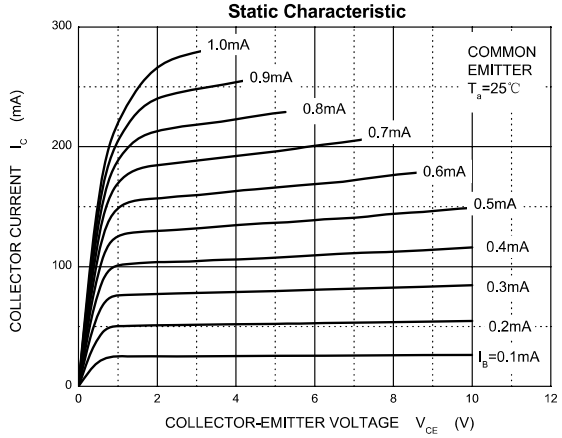
T_a=25℃ unless otherwise specified

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=1mA,I_B=0	2SD667	80			V
			2SD667A	100			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=10μA,I_C=0		5			V
Collector cut-off current	I_{CBO}	V_{CB}=100V,I_E=0				10	μA
Emitter cut-off current	I_{EBO}	V_{EB}=4V,I_C=0				10	μA
DC current gain	$h_{FE(1)}$	V_{CE}=5V,I_C=150mA	2SD667	60		320	
			2SD667A	60		320	
	$h_{FE(2)}$	V_{CE}=5V,I_C=500mA		30			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=500mA,I_B=50mA				1	V
Base-emitter voltage	V_{BE}	V_{CE}=5V,I_C=150mA				1.5	V
Transition frequency	f_T	V_{CE}=5V,I_C=150mA			140		MHz
Collector output capacitance	C_{ob}	V_{CB}=10V,I_E=0,f=1MHz			12		pF

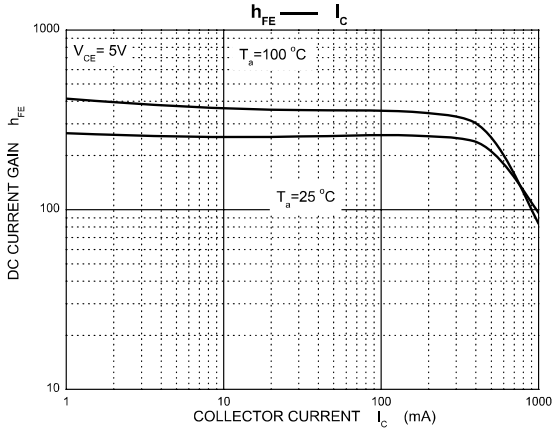
CLASSIFICATION OF $h_{FE(1)}$

Rank		B	C	D
Range	2SD667	60-120	100-200	160-320
	2SD667A	60-120	100-200	160-320

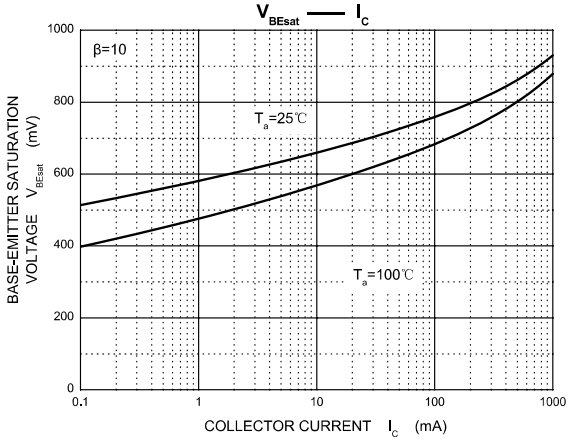
Static Characteristic



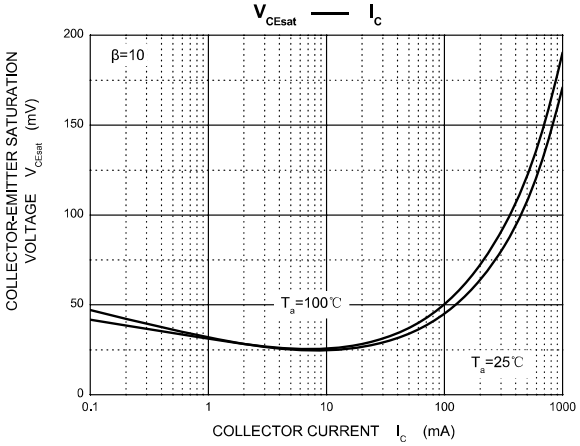
h_{FE} — I_C



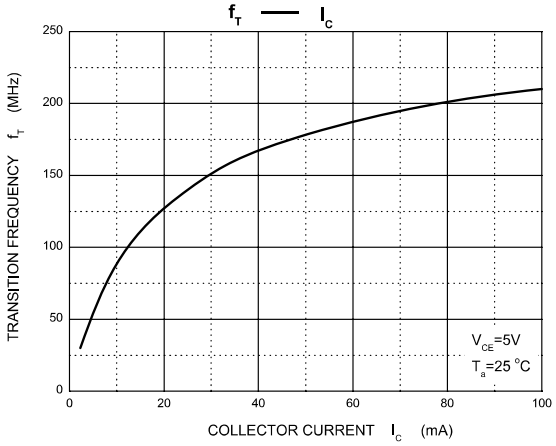
V_{BEsat} — I_C



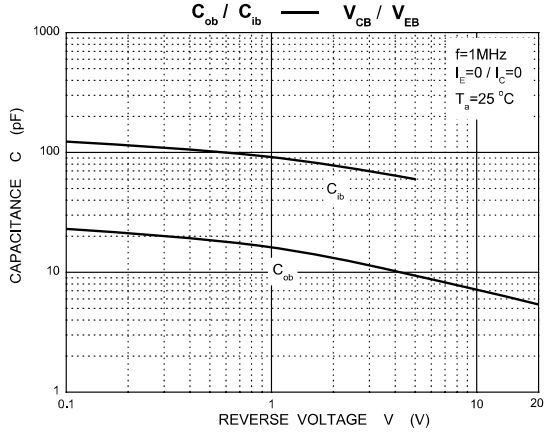
V_{CEsat} — I_C



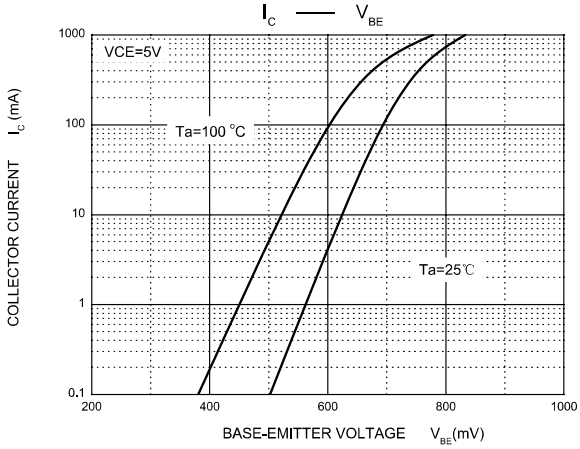
f_T — I_C



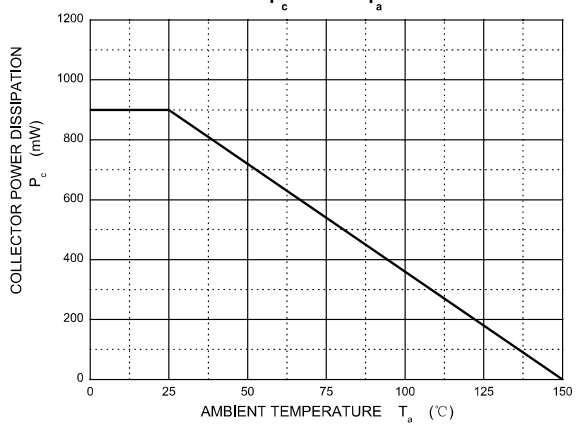
C_{ob} / C_{ib} — V_{CB} / V_{EB}



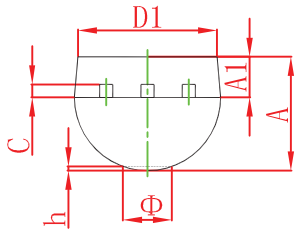
I_C — V_{BE}

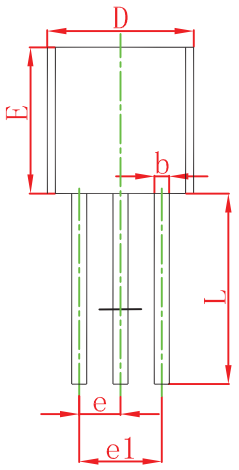


P_c — T_a



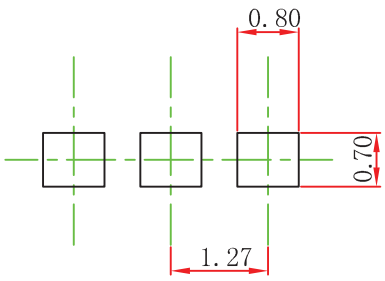
TO-92 Package Outline Dimensions





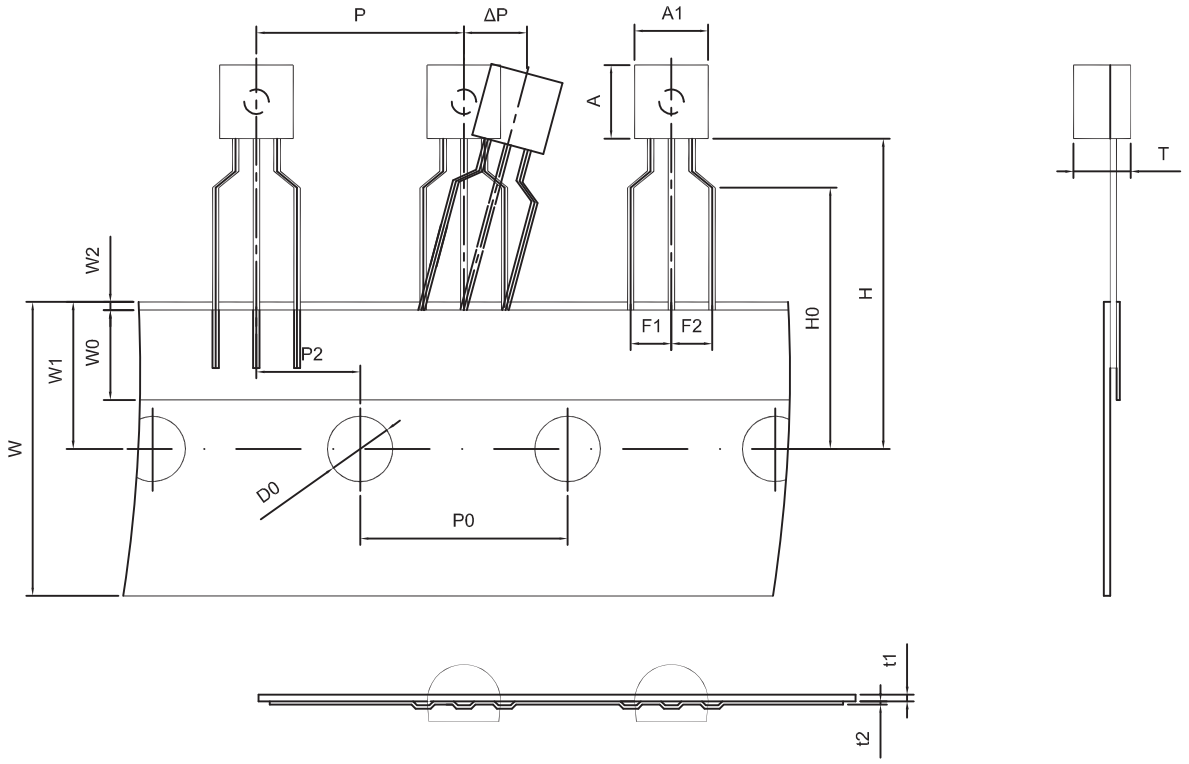
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.300	4.700	0.169	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Φ		1.600		0.063
h	0.000	0.380	0.000	0.015

TO-92 Suggested Pad Layout

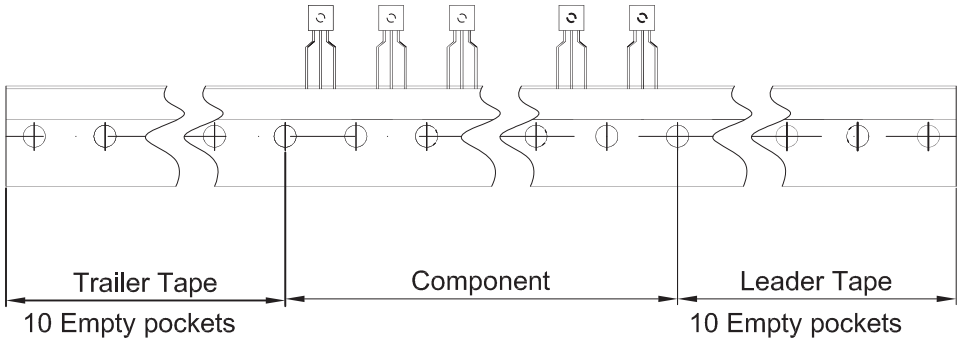


Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

TO-92 Tape and Reel



Dimiensions are in millimeter								
A1	A	T	P	P0	P2	F1	F2	W
4.5	4.5	3.5	12.7	12.7	6.35	2.5	2.5	18.0
W0	W1	W2	H	H0	D0	t1	t2	ΔP
6.0	9.0	1.0 MAX.	19.0	16.0	4.0	0.4	0.2	0



Package	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92	2000 pcs	333×162×43	20,000 pcs	350×340×250