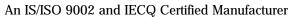


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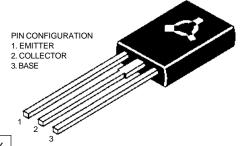


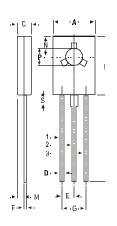
TO-126 (SOT-32) Plastic Package

CSB649, CSB649A CSD669, CSD669A

CSB649, 649A PNP PLASTIC POWER TRANSISTORS CSD669, 669A NPN PLASTIC POWER TRANSISTORS

Low frequency Power Amplifier





DIM	MIN.	MAX.
A	7.4	7.8
В	10.5	10.8
C	2.4	2.7
D	0.7	0.9
Е	2.25 TYP.	
F	0.49	0.75
G	4.5	TYP.
L	15.7	TYP.
М	1.27	TYP.
N	3.75	TY P .
Р	3.0	3.2
Ş	2.5	TYP.

ALL DIMENSIONS IN MM

ABSOLUTE MAXIMUM RATINGS

		6	49	649A	
		6	69	669A	
Collector-base voltage (open emitter)	V_{CBO}	max.	180	180 V	
Collector-emitter voltage (open base)	V_{CEO}	max.	120	160 V	
Collector current	$I_{\mathbb{C}}$	max.	1.5	5 A	
Total power dissipation up to $T_C = 25$ C	P_{C}	max.	20) W	7
Junction temperature	T_i	max.	150) (2
Collector-emitter saturation voltage	,				
$I_C = 0.5 \text{ A}; I_B = 50 \text{ mA}$	V_{CEsat}	max.	1.0) V	
D.C. current gain					
$I_C = 150 \text{ mA}; V_{CE} = 5 \text{ V}$	$h_{ m FE}$	min.	60	60	
		max.	320	200	
DATINICS (at T. 25 C unless athemyine an aci	C: ~ 3\				

RATINGS (at T_A =25 C unless otherwise specified)

Limiting values

O				
Collector-base voltage (open emitter)	V_{CBO}	max.	180	180 V
Collector-emitter voltage (open base)	VCEO	max.	120	160 V

		-	649 649A 669 669A			
Emitter-base voltage (open collector)	V_{EBO}	max.	5.0	V		
Collector current	IC	max.	1.5	A		
Collector current (peak)	I_{CP}	max.	3.0	mΑ		
Total power dissipation up to $T_A = 25$ C	P_{C}	max.	1.0	W		
Total power dissipation up to $T_C = 25$ C	PC	max.	20	W		
Junction temperature	Tį	max.	150	°C		
Storage temperature	T_{stg}	65	to +150	°C		
CHARACTERISTICS						
T _{amb} = 25 C unless otherwise specified						
		-		19 A		
0.11		6	69 66	9A		
Collector cutoff current	т		1.0			
$I_E = 0$; $V_{CB} = 160 \text{ V}$	I_{CBO}	max.	10	μΑ		
Breakdown voltages	Vone		120 16	2. 17		
$I_C = 10 \text{ mA}; I_B = 0$	VCEO	min.) V		
$I_C = 1 \text{ mA}; I_E = 0$	V _{CBO}	min.	180 180 5.0) V		
$I_E = 1 \text{ mA}; I_C = 0$	V_{EBO}	min.	5.0	V		
Saturation voltage	T 7 4		1.0	X 7		
$I_C = 500 \text{ mA}; I_B = 50 \text{ mA}$	V_{CEsat}^*	max.	1.0	V		
Base-emitter voltage	T 7 4		1 5	X 7		
$I_C = 150 \text{ mA}; V_{CE} = 5 \text{ V}$	$V_{BE(on)}^*$	max.	1.5	V		
D.C. current gain	1 4(1)		(0)	2		
$I_C = 150 \text{ mA}; V_{CE} = 5 \text{ V}$	$h_{FE}^{*(1)}$	min.	60 60 320 200			
		max.	320 20	J		
$I_C = 500 \text{ mA}; V_{CE} = 5 \text{ V}$	h_{FE}	min.	30			
Transition frequency						
$I_C = 150 \text{ mA}; V_{CE} = 5 \text{ V}$	f_{T}	typ.	140	MHz		
Output capacitance						
$V_{CB} = 10 \text{ V}; I_E = 0; f = 1 \text{ MHz}$ PNP	C_{ob}	typ.	27	pF		
NPN	C_{ob}	typ.	14	pF		
*(1) h _{FE} classification: Non-A B 60 - 120, C 100 - 200, D 160						
- 320						
A B 60 - 120, C 100 - 200						

^{*} Pulse test

Notes

Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Discrete Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished on the CDIL Web Site/CD is believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Discrete Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

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