

TO-126C Plastic-Encapsulate Transistors

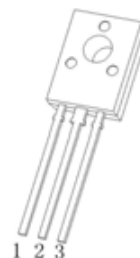
2SD668/2SD668A TRANSISTOR (NPN)

FEATURES

- Low Frequency Power Amplifier Complementary Pair with 2SB649/A

TO - 126C

1. EMITTER
2. COLLECTOR
3. BASE



MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	180	V
V_{CEO}	Collector-Emitter Voltage	2SD668 120	V
		2SD668A 160	
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	0.05	A
P_C	Collector Power Dissipation	1	W
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	125	$^{\circ}\text{C}/\text{W}$
T_j	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu\text{A}, I_E=0$	180			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	2SD668 120			V
			2SD668A 160			
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=160\text{V}, I_E=0$			10	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=4\text{V}, I_C=0$			1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=5\text{V}, I_C=10\text{mA}$	2SD668 60		320	
	$h_{FE(2)}$	$V_{CE}=5\text{V}, I_C=1\text{mA}$	2SD668A 60			
			30			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=30\text{mA}, I_B=3\text{mA}$			2	V
Base-emitter voltage	V_{BE}	$V_{CE}=5\text{V}, I_C=10\text{mA}$			1.5	V
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		3.5		pF
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=10\text{mA}$		140		MHz

CLASSIFICATION OF $h_{FE(1)}$

TYPE	2SD668A		
	2SD668		
RANK	B	C	D
RANGE	60-120	100-200	160-320