

**isc Silicon NPN Power Transistor**
**2SD669**
**DESCRIPTION**

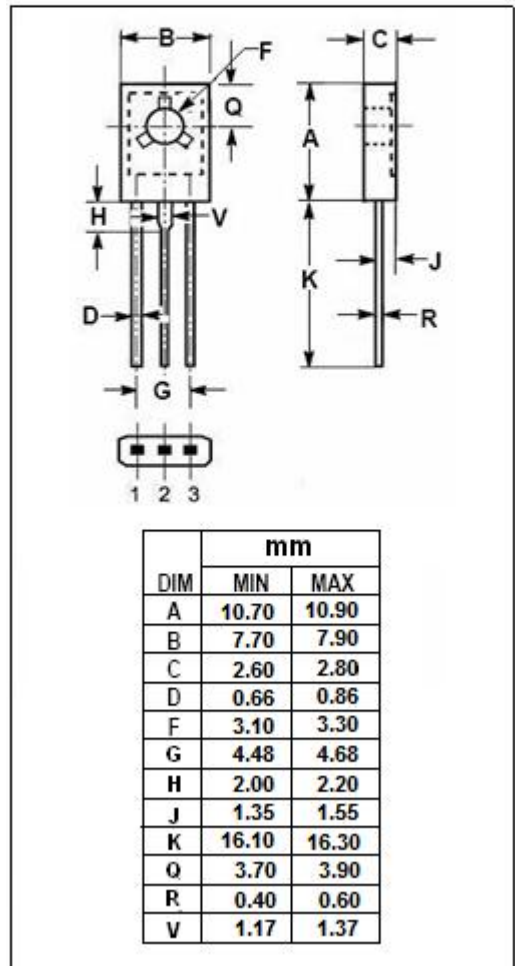
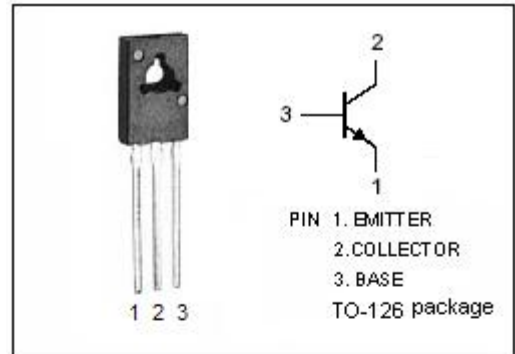
- High Collector Current- $I_C = 1.5A$
- High Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 120V(\text{Min})$
- Good Linearity of  $h_{FE}$
- Low Saturation Voltage
- Complement to Type 2SB649
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Power amplifier applications

**ABSOLUTE MAXIMUM RATINGS( $T_a = 25^\circ\text{C}$ )**

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	180	V
$V_{CEO}$	Collector-Emitter Voltage	120	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	1.5	A
$I_{CP}$	Collector Current-Pulse	3	A
$P_C$	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	20	W
	Collector Power Dissipation @ $T_a = 25^\circ\text{C}$	1	
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



## isc Silicon NPN Power Transistor

## 2SD669

## ELECTRICAL CHARACTERISTICS

 $T_C=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=1\text{mA}; I_E=0$	180			V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=10\text{mA}; R_{BE}=\infty$	120			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=1\text{mA}; I_C=0$	5			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=500\text{mA}; I_B=50\text{mA}$			1.0	V
$V_{BE(on)}$	Base-Emitter Saturation Voltage	$I_C=150\text{mA}; V_{CE}=5\text{V}$			1.5	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=160\text{V}; I_E=0$			10	$\mu\text{A}$
$h_{FE-1}$	DC Current Gain	$I_C=150\text{mA}; V_{CE}=5\text{V}$	60		320	
$h_{FE-2}$	DC Current Gain	$I_C=500\text{mA}; V_{CE}=5\text{V}$	30			
$f_T$	Current-Gain—Bandwidth Product	$I_C=150\text{mA}; V_{CE}=5\text{V}$		140		MHz
$C_{OB}$	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{test}=1\text{MHz}$		14		pF

◆  $h_{FE-1}$  Classifications

B	C	D
60-120	100-200	160-320

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