

## isc Silicon NPN Power Transistors

## 2SD1899-K

## DESCRIPTION

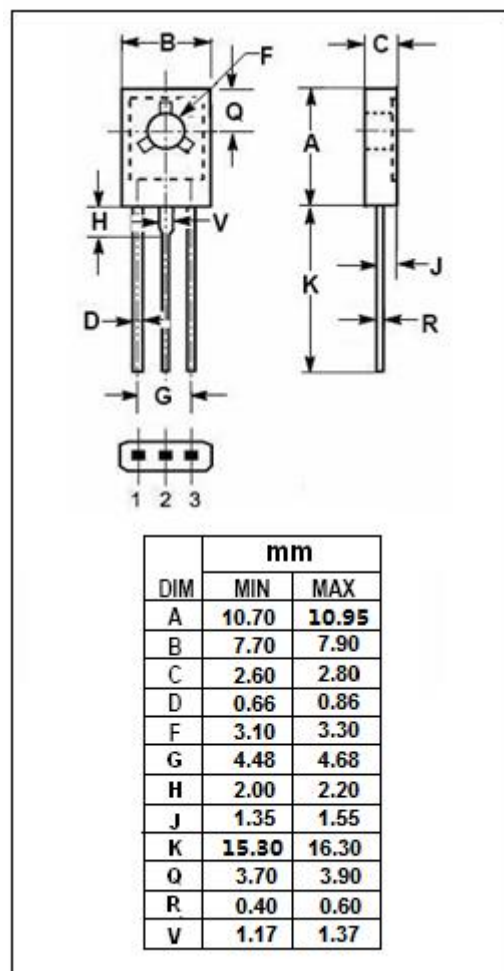
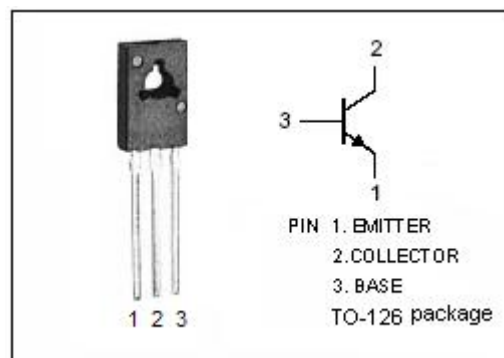
- Low Collector Saturation Voltage
- High Power Dissipation-  
:  $P_C = 10W(\text{Max}) @ T_C = 25^\circ\text{C}$
- Complement to Type 2SB1261-K
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

- Designed for use in audio amplifier and switching, especially in hybrid integrated circuits.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{CEO}$	Collector-Emitter Voltage	60	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	3	A
$P_C$	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	10	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~150	$^\circ\text{C}$



**isc Silicon NPN Power Transistors****2SD1899-K****ELECTRICAL CHARACTERISTICS**T<sub>j</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> = 100 μA; I <sub>E</sub> = 0	60			V
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 1mA; I <sub>B</sub> = 0	60			V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 100 μA; I <sub>C</sub> = 0	7			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 1.5A; I <sub>B</sub> = 0.15A			0.3	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 1.5A; I <sub>B</sub> = 0.15A			1.2	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 60V; I <sub>E</sub> = 0			10	μA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 7V; I <sub>C</sub> = 0			10	μA
h <sub>FE1</sub>	DC Current Gain	I <sub>C</sub> = 0.2A; V <sub>CE</sub> = 2V	60			
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 0.6A; V <sub>CE</sub> = 2V	200		400	
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 2A; V <sub>CE</sub> = 2V	50			
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> = 0; V <sub>CB</sub> = 10V; f= 1MHz		40		pF
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>E</sub> = 1.5A; V <sub>CE</sub> = 5V		50		MHz

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