

**isc Silicon PNP Power Transistor**
**2SB1204**
**DESCRIPTION**

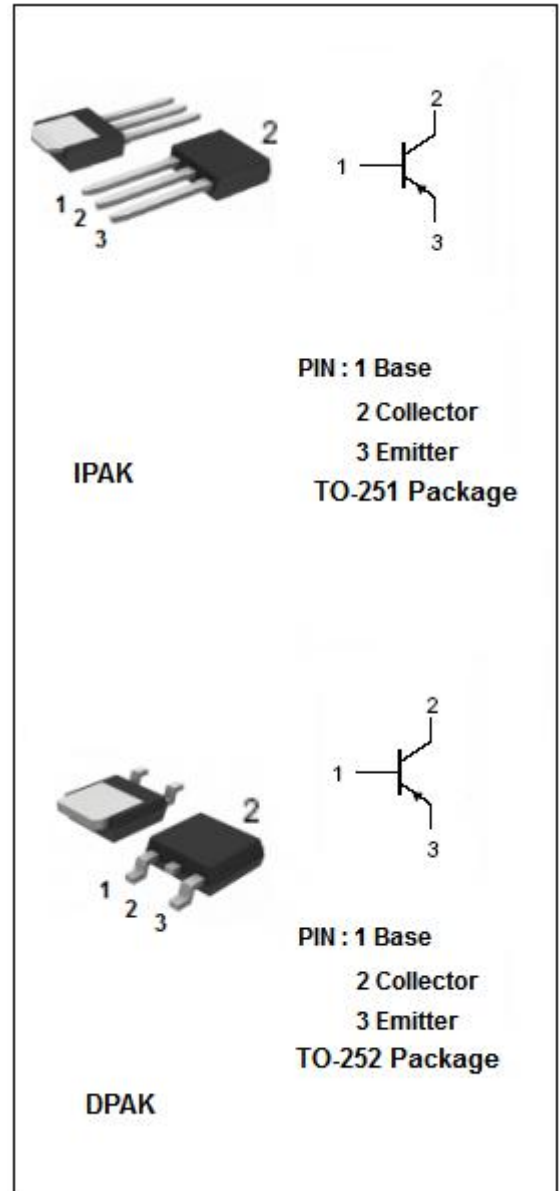
- High current and high  $f_T$
- Low collector-to-emitter saturation voltage
- Excellent linearity of  $h_{FE}$
- Fast switching speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Relay drivers, high speed inverters, converters and other general high-current switching applications

**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	-50	V
$V_{EBO}$	Emitter-Base Voltage	-6	V
$I_C$	Collector Current-Continuous	-8	A
$I_{CP}$	Collector Current-Pulse	-12	A
$P_C$	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	20	W
	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	1.0	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



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**ELECTRICAL CHARACTERISTICS**

 T<sub>c</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -4A; I <sub>B</sub> = -200mA			-0.5	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = -4A; I <sub>B</sub> = -200mA			-1.3	V
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> = -10uA; I <sub>B</sub> = 0	-60			V
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = -1mA; I <sub>B</sub> = 0	-50			V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = -10uA; I <sub>C</sub> = 0	-6			V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = -40V; I <sub>E</sub> = 0			-1	uA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = -4V; I <sub>C</sub> = 0			-1	uA
h <sub>FE1</sub>	DC Current Gain	I <sub>C</sub> = -0.5A; V <sub>CE</sub> = -2V	70		400	
h <sub>FE2</sub>	DC Current Gain	I <sub>C</sub> = -6A; V <sub>CE</sub> = -2V	35			
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> = 0; V <sub>CB</sub> = -10V; f= 1.0MHz		95		pF
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = -1A; V <sub>CE</sub> = -5V		130		MHz

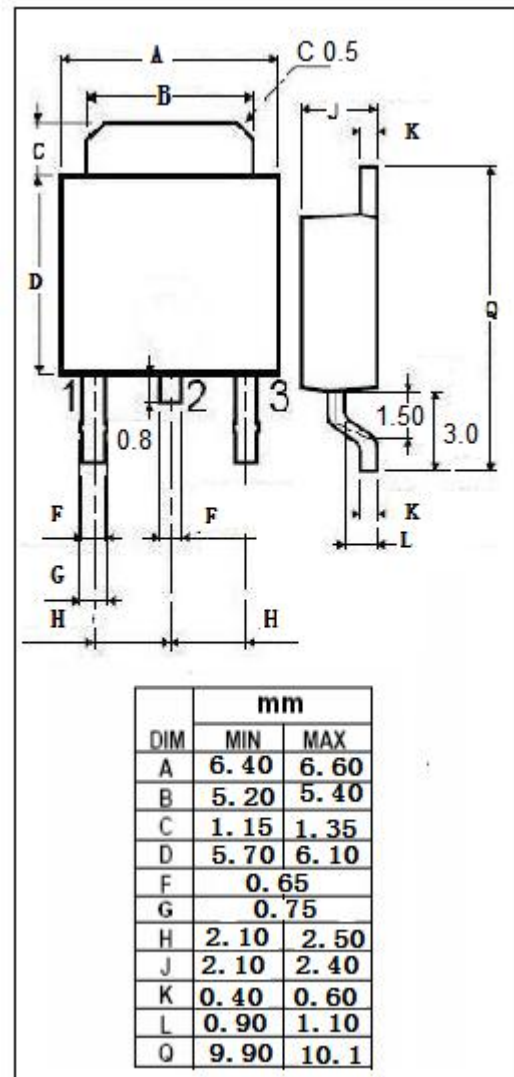
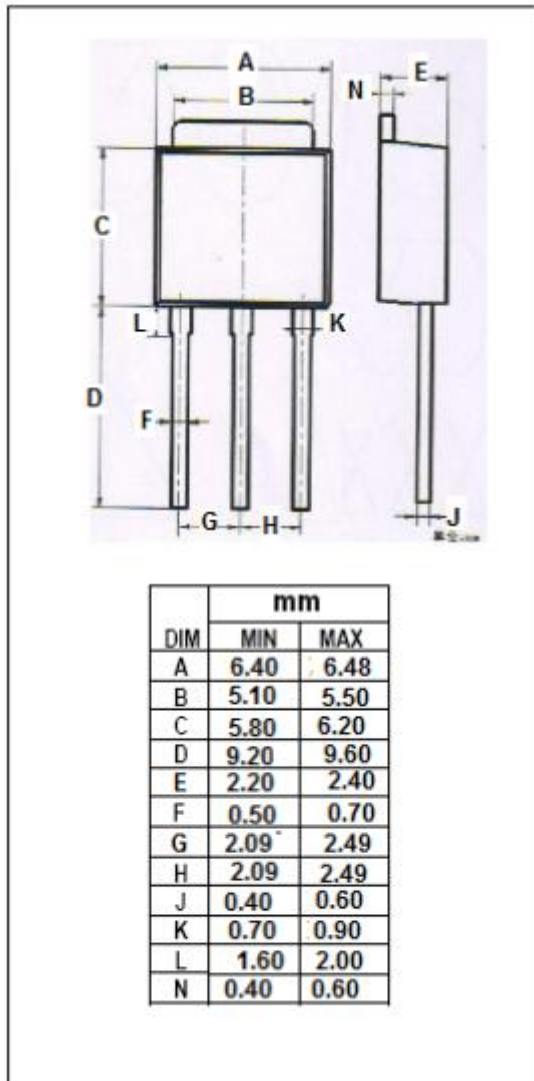
**◆ h<sub>FE1</sub> Classifications**

Q	R	S	T
70-140	100-200	140-280	200-400

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Outline Drawing



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