

**isc Silicon PNP Power Transistor**
**NJD1718**
**DESCRIPTION**

- Low Collector-Emitter Saturation Voltage-  
:  $V_{CE(sat)} = -0.5V(\text{Max})(I_C = -1A; I_B = -0.05A)$
- High Switching speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

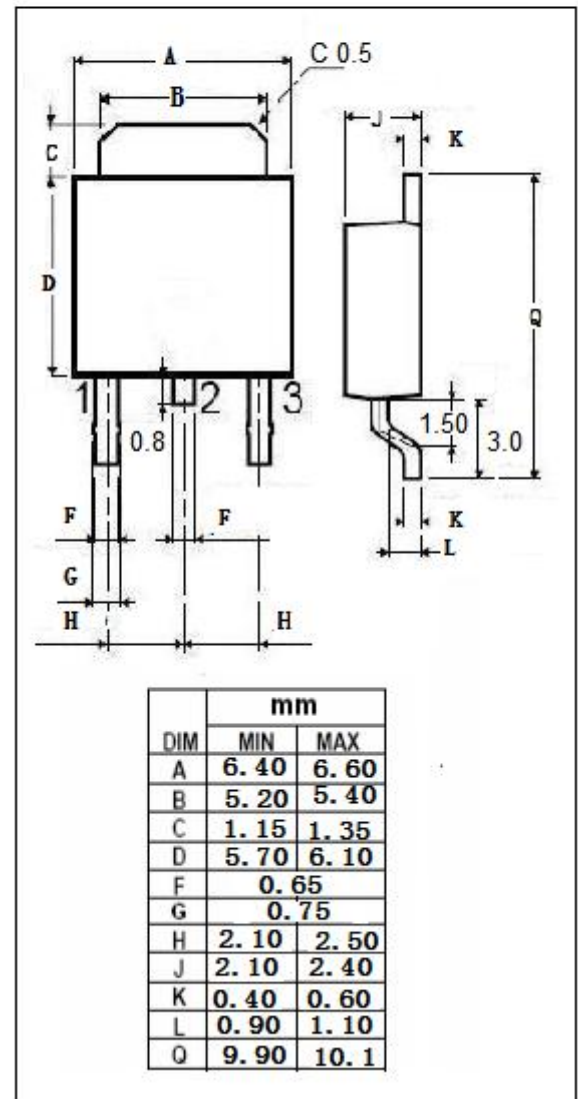
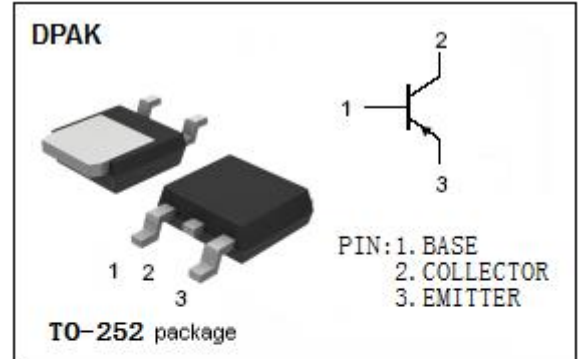
- Designed for high-gain audio amplifier and power Switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	-50	V
$V_{CEO}$	Collector-Emitter Voltage	-50	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current-Continuous	-2	A
$I_{CM}$	Collector Current-Peak	-3	A
$I_B$	Base Current	-0.4	A
$P_C$	Total Power Dissipation @ $T_C=25^\circ\text{C}$	15	W
	Collector Power Dissipation $T_a=25^\circ\text{C}$	1.68	
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	10	$^\circ\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	89.3	$^\circ\text{C/W}$



## isc Silicon PNP Power Transistor

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> =-10mA, I <sub>B</sub> =0	-50			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -1A; I <sub>B</sub> = -0.05A			-0.5	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = -1A; I <sub>B</sub> = -0.05A			-1.2	V
V <sub>BE(on)</sub>	Base-Emitter On Voltage	I <sub>C</sub> = -1A; V <sub>CE</sub> = -2V			-1.2	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = -50V; I <sub>E</sub> = 0			-100	nA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = -5V; I <sub>C</sub> =0			-100	nA
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = -0.5A; V <sub>CE</sub> = -2V	70		240	
		I <sub>C</sub> = -1.5A; V <sub>CE</sub> = -2V	40			
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = -0.5A ; V <sub>CE</sub> = -2V		80		MHZ
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> =0; V <sub>CB</sub> =-10V; f= 0.1MHz		33		pF

Pulse Test: PW=300μs, Duty Cycle≤2.0%

Switching Times; Resistive Load

t <sub>on</sub>	Tur-on Time	I <sub>C</sub> = -1A; V <sub>CC</sub> = -30V;		55		ns
t <sub>s</sub>	Storage Time			320		ns
t <sub>f</sub>	Fall Time			40		ns

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