

**isc Silicon NPN Power Transistors**
**MJD47**
**DESCRIPTION**

- DC Current Gain  $-h_{FE} = 30 \sim 150 @ I_C = 0.3A$
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 250V(\text{Min})$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

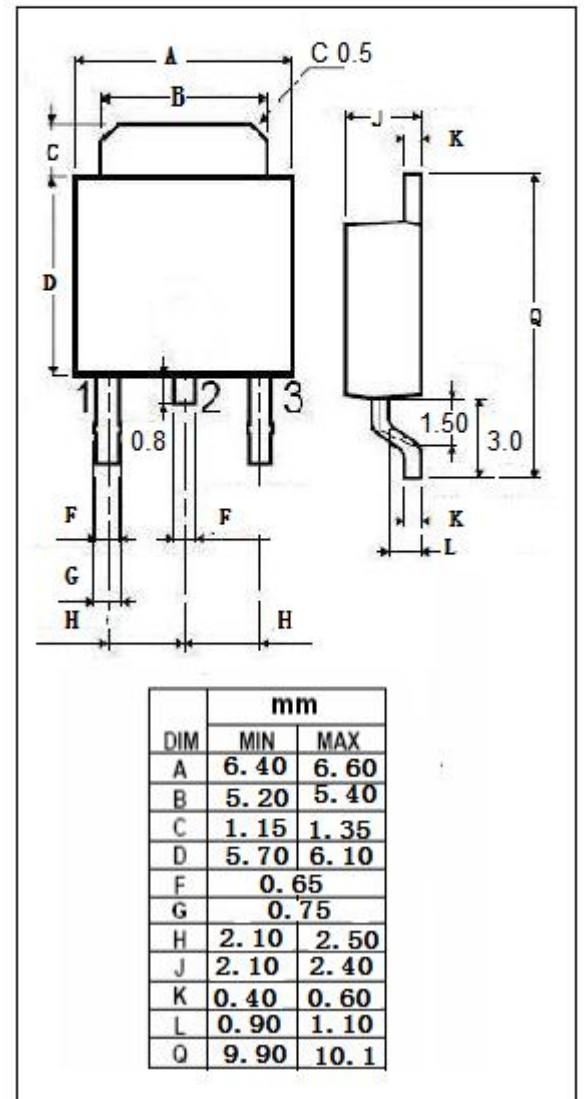
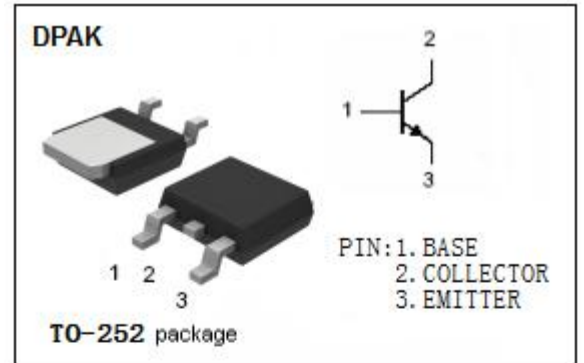
- Designed for line operated audio output amplifier, switchmode power supply drivers and other switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	350	V
$V_{CEO}$	Collector-Emitter Voltage	250	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	1.0	A
$I_{CM}$	Collector Current-Peak	2.0	A
$I_B$	Base Current	0.6	A
$P_D$	Collector Power Dissipation $T_c=25^\circ\text{C}$	15	W
	Collector Power Dissipation $T_a=25^\circ\text{C}$	1.56	
$T_j$	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	8.33	$^\circ\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	80	$^\circ\text{C/W}$



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**ELECTRICAL CHARACTERISTICS**

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 30mA; I <sub>B</sub> = 0	250		V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 1A; I <sub>B</sub> = 0.2A		1.0	V
V <sub>BE(on)</sub>	Base-Emitter On Voltage	I <sub>C</sub> = 1A; V <sub>CE</sub> = 10V		1.5	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 350V; I <sub>E</sub> = 0		0.1	mA
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = 150V; I <sub>B</sub> = 0		0.2	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0		1.0	mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 0.3A; V <sub>CE</sub> = 10V	30	150	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 1A; V <sub>CE</sub> = 10V	10		
f <sub>r</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 0.2A; V <sub>CE</sub> = 10V	10		MHz

Pulse Test: PW≤300μs, Duty Cycle≤2.0%

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