

**isc Silicon PNP Power Transistor**

**MJD210**

**DESCRIPTION**

- High DC Current Gain–  
:  $h_{FE} = 70(\text{Min}) @ I_C = -0.5\text{A}$
- Low Collector Saturation Voltage–  
:  $V_{CE(\text{sat})} = -0.3\text{V}(\text{Max.}) @ I_C = -0.5\text{A}$
- Complement to the NPN MJD200
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

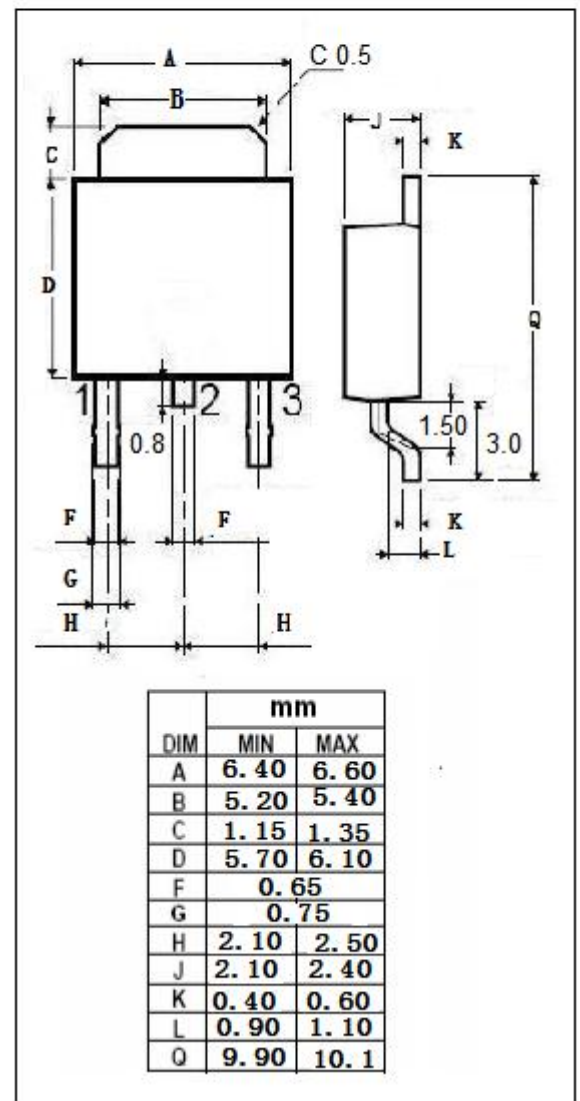
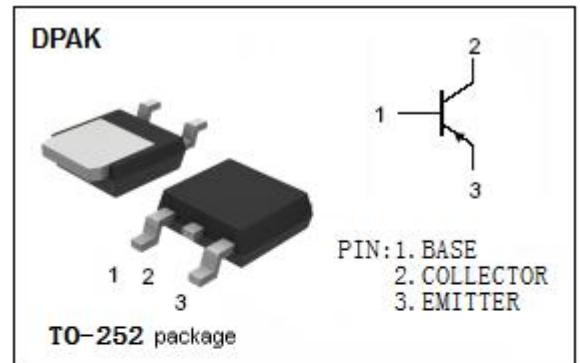
- Designed for low voltage, low -power ,high-gain audio amplifier applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	-40	V
$V_{CEO}$	Collector-Emitter Voltage	-25	V
$V_{EBO}$	Emitter-Base Voltage	-8	V
$I_C$	Collector Current-Continuous	-5	A
$I_{CM}$	Collector Current-Peak	-10	A
$I_B$	Base Current	-1	A
$P_C$	Collector Power Dissipation $T_a=25^\circ\text{C}$	1.4	W
	Collector Power Dissipation $T_c=25^\circ\text{C}$	12.5	
$T_j$	Junction Temperature	150	$^\circ\text{C}$
$T_{\text{stg}}$	Storage Temperature Range	-65~150	$^\circ\text{C}$

**THERMAL CHARACTERISTICS**

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



**isc Silicon PNP Power Transistor****MJD210****ELECTRICAL CHARACTERISTICS** $T_c = 25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = -10\text{mA}; I_B = 0$	-25		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C = -0.5\text{A}; I_B = -50\text{mA}$		-0.3	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C = -2\text{A}; I_B = -0.2\text{A}$		-0.75	V
$V_{CE(sat)-3}$	Collector-Emitter Saturation Voltage	$I_C = -5\text{A}; I_B = -1\text{A}$		-1.8	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -5\text{A}; I_B = -1\text{A}$		-2.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -2\text{A}; V_{CE} = -1\text{V}$		-1.6	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB} = -40\text{V}; I_E = 0$ $V_{CB} = -40\text{V}; I_E = 0; T_C = 125^\circ\text{C}$		-0.1 -0.1	$\mu\text{A}$ mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB} = -8\text{V}; I_C = 0$		-0.1	$\mu\text{A}$
$h_{FE-1}$	DC Current Gain	$I_C = -0.5\text{A}; V_{CE} = -1\text{V}$	70		
$h_{FE-2}$	DC Current Gain	$I_C = -2\text{A}; V_{CE} = -1\text{V}$	45	180	
$h_{FE-3}$	DC Current Gain	$I_C = -5\text{A}; V_{CE} = -2\text{V}$	10		
$f_T$	Current-Gain—Bandwidth Product	$I_C = -0.1\text{A}; V_{CE} = -10\text{V}; f_{test} = 10\text{MHz}$	65		MHz
$C_{OB}$	Collector Capacitance	$I_E = 0; V_{CB} = -10\text{V}; f_{test} = 0.1\text{MHz}$	60		pF