

isc Silicon NPN Darlington Power Transistor

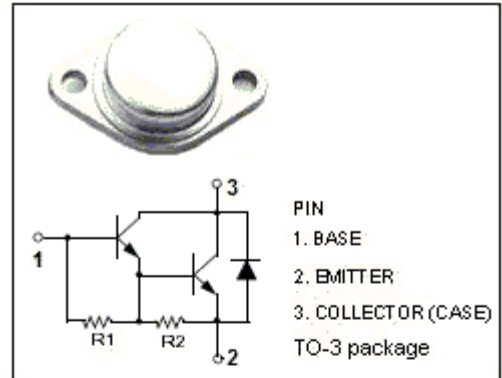
MJ3042

DESCRIPTION

- Built-in Base-Emitter Shunt Resistors
- High DC current gain-
 $h_{FE} = 250$ (Min) @ $I_C = 2.5A$
- Collector-Emitter Sustaining Voltage-
 $V_{CEO(SUS)} = 350V$ (Min)

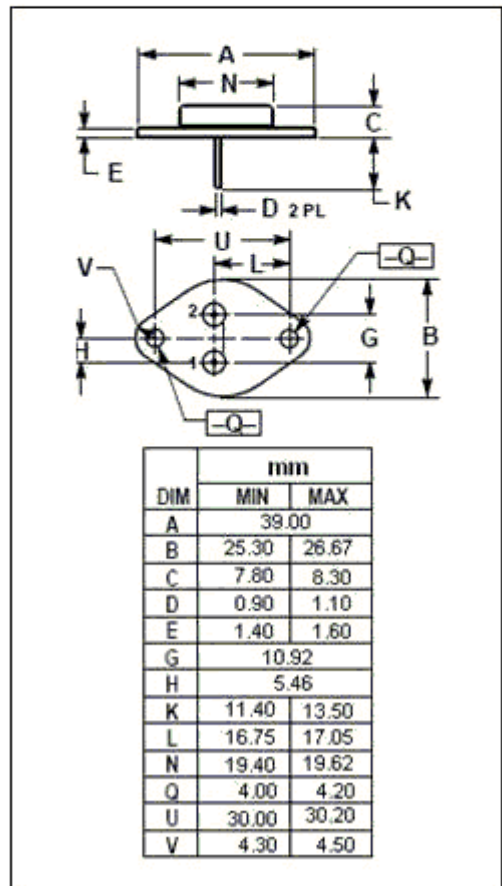
APPLICATIONS

- Developed for line operated amplifier, series pass and Switching regulator applications.



ABSOLUTE MAXIMUM RATINGS($T_C=25^\circ C$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	500	V
V_{CEO}	Collector-Emitter Voltage	350	V
V_{EBO}	Emitter-Base Voltage	8	V
I_C	Collector Current -Continuous	10	A
P_C	Collector Power Dissipation@ $T_C=25^\circ C$	175	W
T_J	Junction Temperature	200	$^\circ C$
T_{stg}	Storage Temperature	-55~200	$^\circ C$



THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.0	$^\circ C/W$

isc Silicon NPN Darlington Power Transistor**MJ3042****ELECTRICAL CHARACTERISTICS** $T_C=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=100\text{mA}; I_B=0$	350		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=2.5\text{A}; I_B=50\text{mA}$		2.2	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=400\text{mA}$		2.5	V
$V_{BE(on)}$	Base-Emitter On voltage	$I_C=2.5\text{A}; V_{CE}=5\text{V}$		2.5	V
I_{CBO}	Collector Cutoff current	$V_{CE}=500\text{V}; I_E=0$ $V_{CE}=500\text{V}; I_E=0, T_C=100^\circ\text{C}$		1.0 5.0	mA
I_{EBO}	Emitter Cut-off current	$V_{EB}=5\text{V}; I_C=0$		40	mA
h_{FE-1}	DC Current Gain	$I_C=2.5\text{A}; V_{CE}=5\text{V}$	250		
h_{FE-2}	DC Current Gain	$I_C=5\text{A}; V_{CE}=5\text{V}$	50		