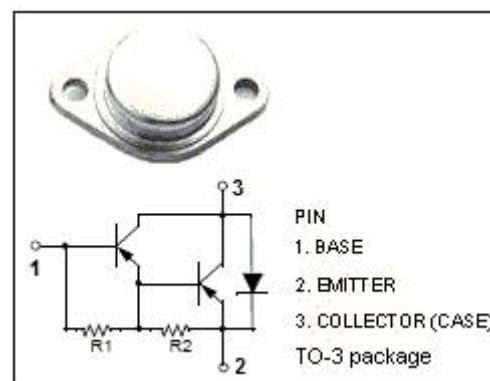


DESCRIPTION

- Collector-Emitter Breakdown Voltage
: $V_{(BR)CEO} = -90V(\text{Min.})$
- High DC Current Gain-
: $h_{FE} = 1000(\text{Min.})@I_C = -25A$
: $h_{FE} = 400(\text{Min.})@I_C = -50A$
- Complement to the NPN MJ11030

APPLICATIONS

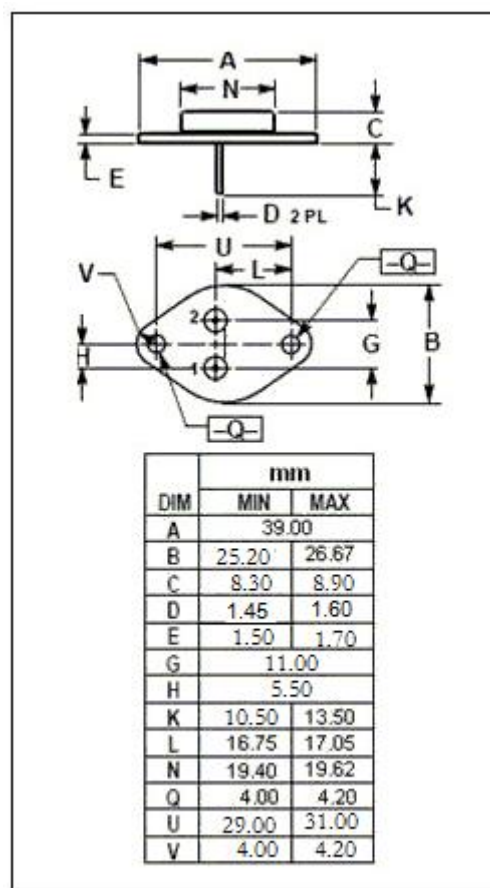
- Designed for use as output devices in complementary general purpose amplifier applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-90	V
V_{CEO}	Collector-Emitter Voltage	-90	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-50	A
I_{CM}	Collector Current-Peak	-100	A
I_B	Base Current-Continuous	-2	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	300	W
T_j	Junction Temperature	200	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~+200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	0.584	$^\circ\text{C/W}$



SPTECH Silicon PNP Darlington Power Transistor

MJ11031

ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -50\text{mA}; I_B = 0$	-90			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C = -25\text{A}; I_B = -250\text{mA}$			-2.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C = -50\text{A}; I_B = 500\text{mA}$			-3.5	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	$I_C = -25\text{A}; I_B = -250\text{mA}$			-3.0	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	$I_C = -50\text{A}; I_B = -500\text{mA}$			-4.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = -90\text{V}; I_E = 0$ $V_{CB} = -90\text{V}; I_E = 0; T_C = 150^{\circ}\text{C}$			-2.0 -5.0	mA
I_{CEO}	Collector Cutoff Current	$V_{CE} = -90\text{V}; I_B = 0$			-2.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -5\text{V}; I_C = 0$			-5.0	mA
h_{FE-1}	DC Current Gain	$I_C = -25\text{A}, V_{CE} = -5\text{V}$	1000		18000	
h_{FE-2}	DC Current Gain	$I_C = -50\text{A}, V_{CE} = -5\text{V}$	400			