

**isc Silicon NPN Darlington Power Transistor**
**MJ11028**
**DESCRIPTION**

- Collector-Emitter Breakdown Voltage  
:  $V_{(BR)CEO} = 60V(\text{Min.})$
- High DC Current Gain-  
:  $h_{FE} = 1000(\text{Min.})@I_C = 25A$   
:  $h_{FE} = 400(\text{Min.})@I_C = 50A$
- Complement to the PNP MJ11029
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

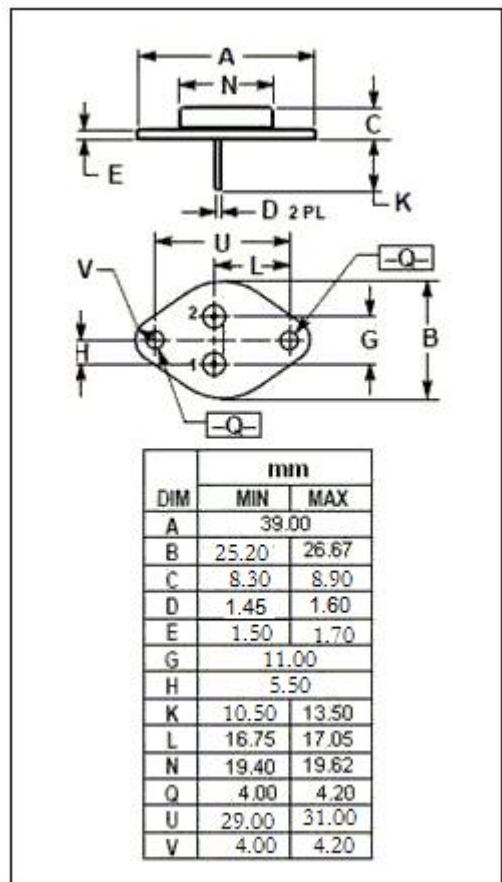
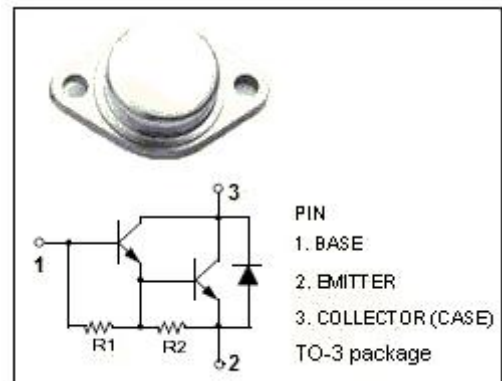
- Designed for use as output devices in complementary general purpose amplifier applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{CEO}$	Collector-Emitter Voltage	60	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	$^\circ\text{C}/\text{W}$



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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> = 50mA; I <sub>B</sub> = 0	60			V
V <sub>CE(sat)-1</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 25A; I <sub>B</sub> = 250mA			2.5	V
V <sub>CE(sat)-2</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 50A; I <sub>B</sub> = 500mA			3.5	V
V <sub>BE(sat)-1</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 25A; I <sub>B</sub> = 250mA			3.0	V
V <sub>BE(sat)-2</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 50A; I <sub>B</sub> = 500mA			4.5	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 60V; I <sub>E</sub> =0 V <sub>CB</sub> = 60V; I <sub>E</sub> =0; T <sub>C</sub> =150°C			2.0 5.0	mA
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = 60V; I <sub>B</sub> = 0			2.0	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0			5.0	mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 25A, V <sub>CE</sub> = 5V	1000		18000	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 50A, V <sub>CE</sub> = 5V	400			

**NOTICE:**

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