

isc Silicon NPN Darlington Power Transistor

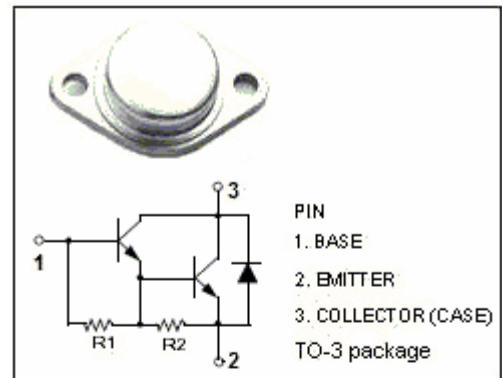
MJ11030

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 Type MJ11031

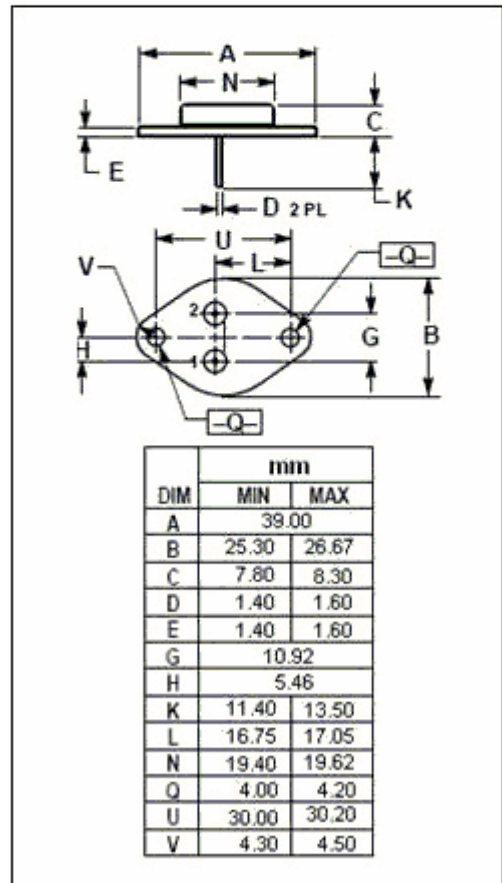
APPLICATIONS

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



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

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 @ $T_C = 25^\circ C$	300	W
$T_j$	Junction Temperature	200	$^\circ C$
$T_{stg}$	Storage Temperature Range	-55~+200	$^\circ C$



THERMAL CHARACTERISTICS

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

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## 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	$I_C=0.1\text{A}; I_B=0$	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
$I_{CER}$	Collector Cutoff Current	$V_{CE}=90\text{V}; R_{BE}=1\text{k}\Omega$ $V_{CE}=90\text{V}; R_{BE}=1\text{k}\Omega; T_C=150^\circ\text{C}$			2.0 5.0	mA
$I_{CEO}$	Collector Cutoff Current	$V_{CE}=50\text{V}; I_B=0$			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			