

isc Silicon PNP Darlington Power Transistor

MJ11013

DESCRIPTION

- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = -90V(\text{Min.})$
- High DC Current Gain-
: $h_{FE} = 1000(\text{Min.}) @ I_C = -20A$
- Low Collector Saturation Voltage-
: $V_{CE(sat)} = -3.0V(\text{Max.}) @ I_C = -20A$
- Complement to Type MJ11014

APPLICATIONS

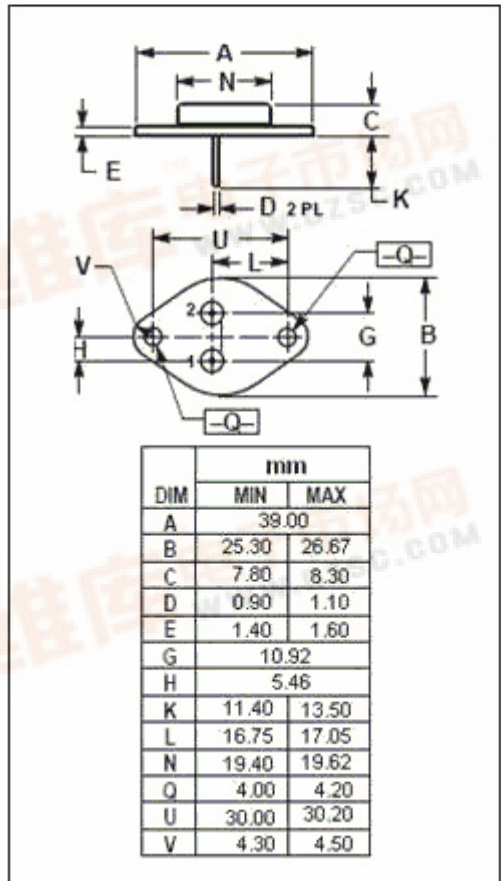
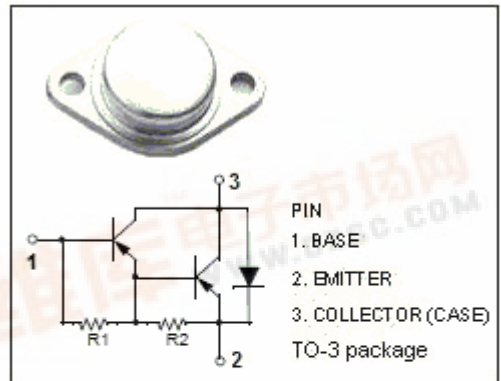
- Designed for use as output devices in complementary general purpose amplifier applications.

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	-30	A
I_{CM}	Collector Current-Peak	-50	A
I_B	Base Current-Continuous	-1	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	200	W
T_j	Junction Temperature	200	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~+200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	0.87	$^\circ\text{C}/\text{W}$



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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	$I_C = -20\text{A}; I_B = -0.2\text{A}$			-3.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C = -30\text{A}; I_B = -0.3\text{A}$			-4.0	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	$I_C = -20\text{A}; I_B = -0.2\text{A}$			-3.5	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	$I_C = -30\text{A}; I_B = -0.3\text{A}$			-5.0	V
I_{CER}	Collector Cutoff Current	$V_{CE} = -90\text{V}; R_{BE} = 1\text{k}\Omega$ $V_{CE} = -90\text{V}; R_{BE} = 1\text{k}\Omega; T_C = 150^{\circ}\text{C}$			-1.0 -5.0	mA
I_{CEO}	Collector Cutoff Current	$V_{CE} = -50\text{V}; I_B = 0$			-1.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -5\text{V}; I_C = 0$			-5.0	mA
h_{FE-1}	DC Current Gain	$I_C = -20\text{A}, V_{CE} = -5\text{V}$	1000			
h_{FE-2}	DC Current Gain	$I_C = -30\text{A}, V_{CE} = -5\text{V}$	200			