

isc Silicon NPN Darlington Power Transistor
2N6056
DESCRIPTION

- Built-in Base-Emitter Shunt Resistors
- Low Collector-Emitter Saturation Voltage
: $V_{CE(sat)} = 2.0V(\text{Max.})@I_C = 4.0A$
- Collector-Emitter Sustaining Voltage-
 $V_{CEO(SUS)} = 80V(\text{Min})$
- Complement to type 2N6054
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

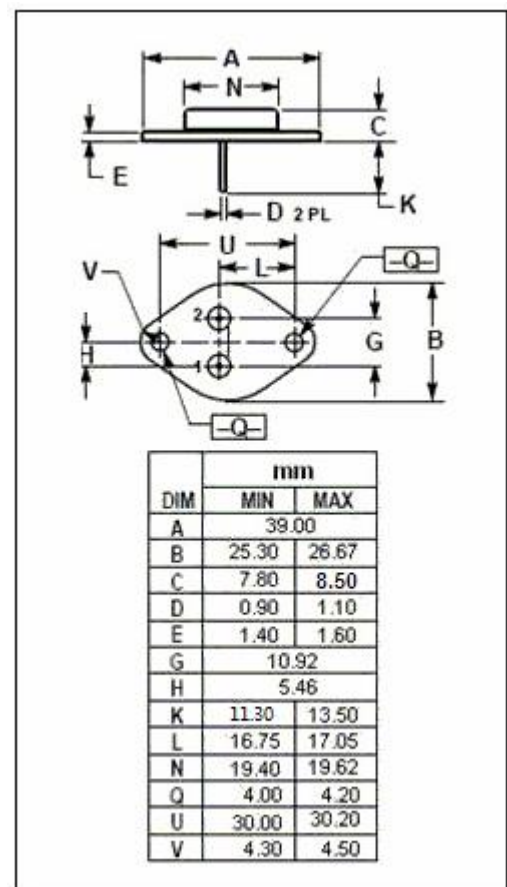
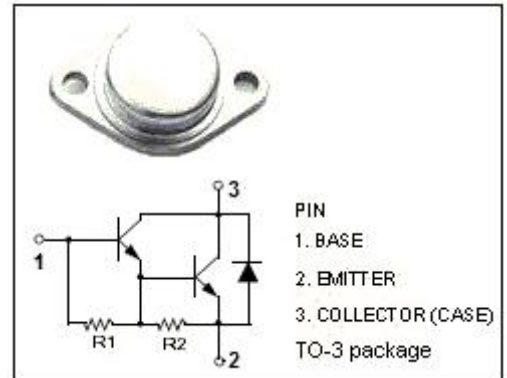
- Designed for general purpose amplifier and low frequency switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	8	A
I_{CM}	Collector Current-Peak	16	A
I_B	Base Current	120	mA
P_C	Collector Power Dissipation@ $T_C=25^\circ\text{C}$	100	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(j-c)}$	Thermal Resistance, Junction to Case	1.75	$^\circ\text{C}/\text{W}$



isc Silicon NPN Darlington Power Transistor**2N6056****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=50\text{mA}$; $I_B=0$	80		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=4\text{A}$; $I_B=16\text{mA}$		2.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=8\text{A}$; $I_B=80\text{mA}$		3.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=8\text{A}$; $I_B=80\text{mA}$		4.0	V
$V_{BE(on)}$	Base-Emitter On voltage	$I_C=4\text{A}$; $V_{CE}=3\text{V}$		2.8	V
I_{CEO}	Collector Cutoff current	$V_{CE}=40\text{V}$; $I_B=0$		0.5	mA
I_{CEX}	Collector Cutoff current	$V_{CE}=80\text{V}$; $V_{BE(off)}=-1.5\text{V}$ $V_{CE}=80\text{V}$; $V_{BE(off)}=-1.5\text{V}$, $T_C=150^{\circ}\text{C}$		0.5 5.0	mA
I_{EBO}	Emitter Cut-off current	$V_{EB}=5\text{V}$; $I_C=0$		2.0	mA
h_{FE-1}	DC Current Gain	$I_C=4\text{A}$; $V_{CE}=3\text{V}$	750	18000	
h_{FE-2}	DC Current Gain	$I_C=8\text{A}$; $V_{CE}=3\text{V}$	100		
C_{OB}	Output Capacitance	$I_E=0$; $V_{CB}=10\text{V}$; $f_{test}=0.1\text{MHz}$		220	pF

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