

# isc Silicon PNP Darlingtion Power Transistor

# 2N6050

### DESCRIPTION

- Built-in Base-Emitter Shunt Resistors
- High DC current gain
- Complement to type 2N6057
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### APPLICATIONS

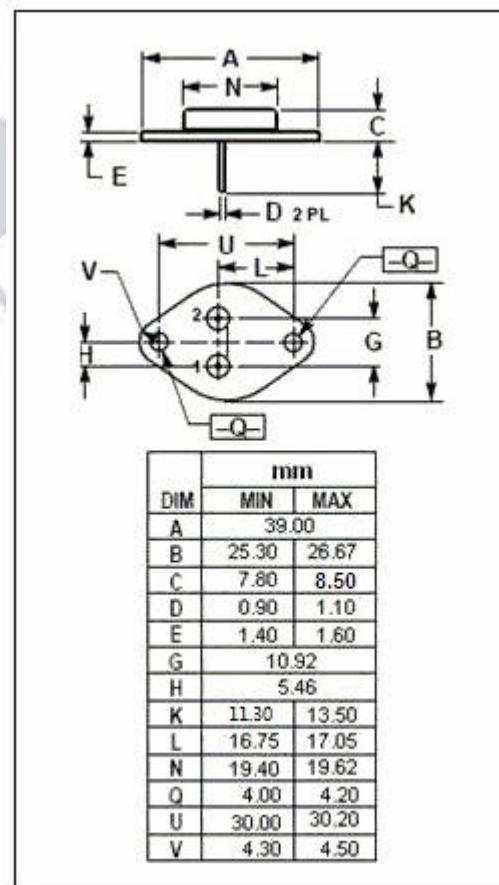
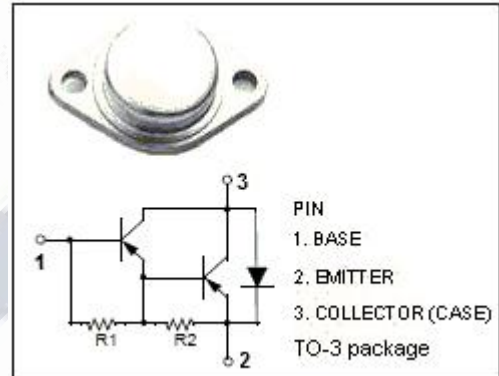
- Designed for general purpose amplifier and low frequency switching applications.

### ABSOLUTE MAXIMUM RATINGS(T<sub>C</sub>=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>CBO</sub>	Collector-Base Voltage	-60	V
V <sub>CEO</sub>	Collector-Emitter Voltage	-60	V
V <sub>EBO</sub>	Emitter-Base Voltage	-5	V
I <sub>C</sub>	Collector Current -Continuous	-12	A
I <sub>CM</sub>	Collector Current-Peak	-20	A
I <sub>B</sub>	Base Current	-0.2	A
P <sub>C</sub>	Collector Power Dissipation@T <sub>C</sub> =25°C	150	W
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-65~150	°C

### THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	ThermalResistance, Junction to Case	1.17	°C/W



**isc Silicon PNP Darlington Power Transistor****2N6050****ELECTRICAL CHARACTERISTICS** $T_C=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = -50\text{mA}$ ; $I_B = 0$	-60		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C = -6\text{A}$ ; $I_B = -24\text{mA}$		-2.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C = -12\text{A}$ ; $I_B = -120\text{mA}$		-3.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -12\text{A}$ ; $I_B = -120\text{mA}$		4.0	V
$V_{BE(on)}$	Base-Emitter On voltage	$I_C = -6\text{A}$ ; $V_{CE} = -3\text{V}$		-2.8	V
$I_{CEO}$	Collector Cutoff current	$V_{CE} = -30\text{V}$ ; $I_B = 0$		-1.0	mA
$I_{CEX}$	Collector Cutoff current	$V_{CE} = -60\text{V}$ ; $V_{BE(off)} = -1.5\text{V}$ $V_{CE} = -60\text{V}$ ; $V_{BE(off)} = -1.5\text{V}$ , $T_C = 150^\circ\text{C}$		-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	$I_C = -6\text{A}$ ; $V_{CE} = -3\text{V}$	750	18000	
$h_{FE-2}$	DC Current Gain	$I_C = -12\text{A}$ ; $V_{CE} = -3\text{V}$	100		
$C_{OB}$	Output Capacitance	$I_E = 0$ ; $V_{CB} = -10\text{V}$ ; $f_{test} = 0.1\text{MHz}$		500	pF