

isc Silicon NPN Darlington Power Transistor

2N6059

DESCRIPTION

- Built-in Base-Emitter Shunt Resistors
- High DC current gain-  
 $h_{FE} = 750$  (Min) @  $I_C = 6A$
- Collector-Emitter Sustaining Voltage-  
 $V_{CEO(SUS)} = 100V$ (Min)
- Complement to type 2N6052

APPLICATIONS

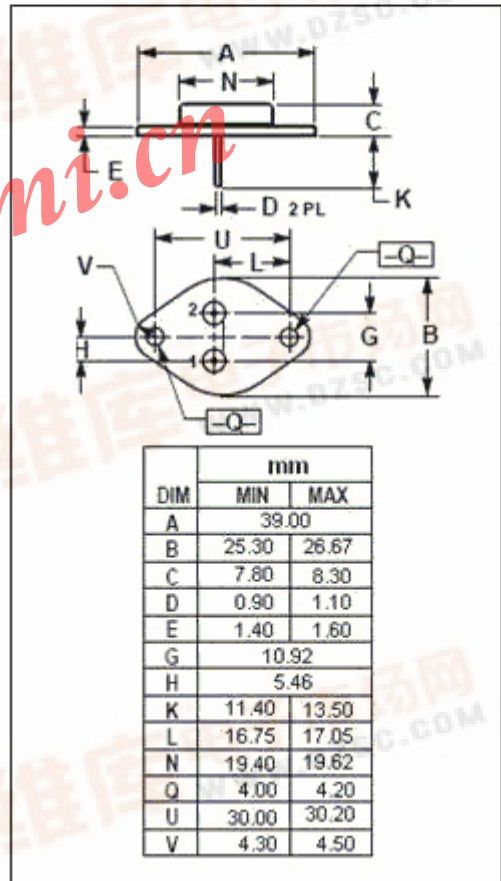
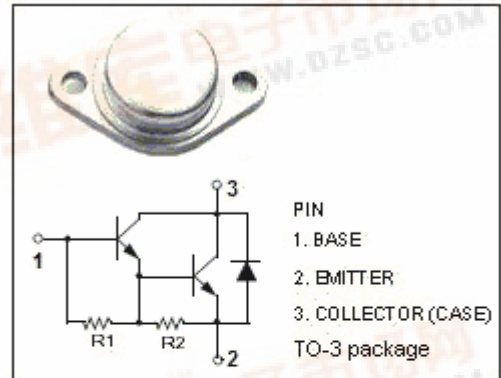
- Designed for general purpose amplifier and low frequency switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	100	V
$V_{CEO}$	Collector-Emitter Voltage	100	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current -Continuous	12	A
$I_{CM}$	Collector Current-Peak	20	A
$I_B$	Base Current	0.2	A
$P_C$	Collector Power Dissipation@ $T_C=25^{\circ}C$	150	W
$T_J$	Junction Temperature	200	$^{\circ}C$
$T_{stg}$	Storage Temperature	-65~200	$^{\circ}C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	ThermalResistance, Junction to Case	1.17	$^{\circ}C/W$



**isc Silicon NPN Darlington Power Transistor****2N6059****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=100\text{mA}; I_B=0$	100		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	$V_{CE}=-50\text{V}; I_B=0$		1.0	mA
$I_{CEX}$	Collector Cutoff current	$V_{CE}=100\text{V}; V_{BE(off)}=-1.5\text{V}$ $V_{CE}=100\text{V}; V_{BE(off)}=-1.5\text{V}; T_C=150^{\circ}\text{C}$		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	$I_E=0; V_{CB}=10\text{V}; f_{test}=0.1\text{MHz}$		300	pF