

# isc Silicon NPN Darlington Power Transistor

**YZ21**
**DESCRIPTION**

- High DC Current Gain-  
:  $h_{FE} = 2000(\text{Min}) @ I_C = 2A$
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(\text{SUS})} = 200V(\text{Min})$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

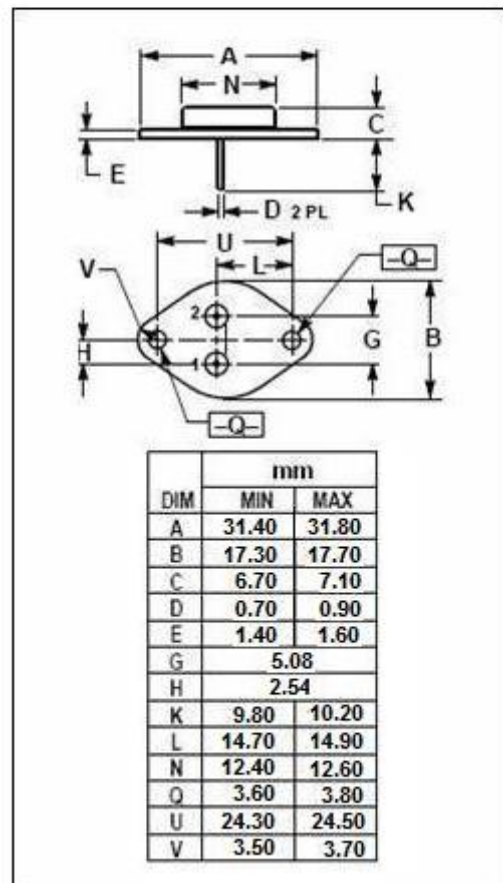
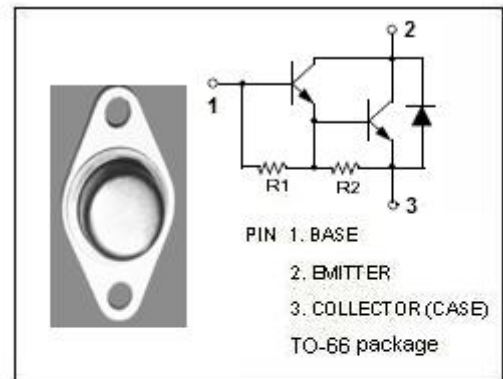
- Designed for general purpose amplifier and low speed switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	200	V
$V_{CEO}$	Collector-Emitter Voltage	200	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	5	A
$I_{CM}$	Collector Current-Peak	10	A
$P_C$	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	50	W
$T_j$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.56	$^\circ\text{C/W}$



**isc Silicon NPN Darlington Power Transistor****YZ21****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=30\text{mA}, I_B=0$	200			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=2\text{A}, I_B=10\text{mA}$			2.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=2\text{A}, I_B=10\text{mA}$			2.5	V
$I_{CBO}$	Collector Cutoff current	$V_{CB}=200\text{V}, I_E=0$			0.1	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			2	mA
$h_{FE}$	DC Current Gain	$I_C=2\text{A}; V_{CE}=5\text{V}$	2000		4000	

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