

**isc Silicon NPN Power Transistor**
**3DK501D**
**DESCRIPTION**

- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 450V(\text{Min.})$
- DC Current Gain  
:  $h_{FE} = 20(\text{Min.})@I_C = 10A$
- Collector-Emitter Saturation Voltage-  
:  $V_{CE(sat)} = 1.2V(\text{Max})@I_C = 10A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

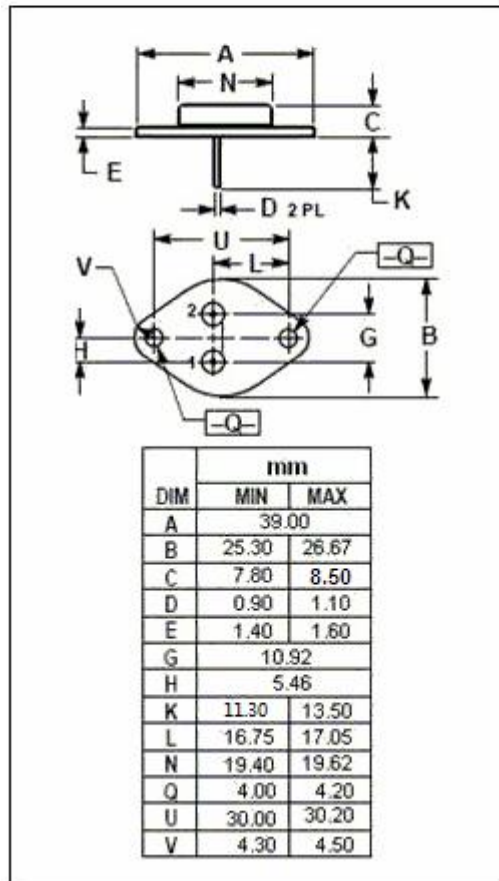
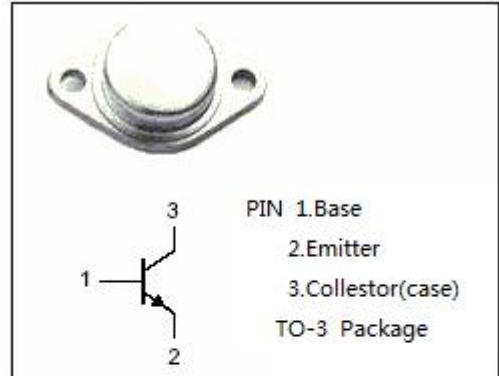
- Designed for B&W TV horizontal output , regulated power supply and power amplifier applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	450	V
$V_{CEO}$	Collector-Emitter Voltage	450	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	20	A
$P_C$	Collector Power Dissipation	100	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~150	$^\circ\text{C}$

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.25	$^\circ\text{C/W}$



**isc Silicon NPN Power Transistors****3DK501D****ELECTRICAL CHARACTERISTICS****T<sub>C</sub>=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 30mA; I <sub>B</sub> = 0	450		V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> =1mA; I <sub>C</sub> = 0	5		
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 10A; I <sub>B</sub> = 1A		1.2	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 10A; I <sub>B</sub> = 1A		1.5	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 315V; I <sub>E</sub> = 0		1.0	mA
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = 315V; I <sub>B</sub> =0		1.0	mA
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 10A; V <sub>CE</sub> = 10V	10		

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