

**isc Silicon NPN Power Transistor**
**2N3442**
**DESCRIPTION**

- Excellent Safe Operating Area
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 140V(\text{Min.})$
- Collector-Emitter Saturation Voltage-  
:  $V_{CE(sat)} = 5.0V(\text{Max}) @ I_C = 10A$

**APPLICATIONS**

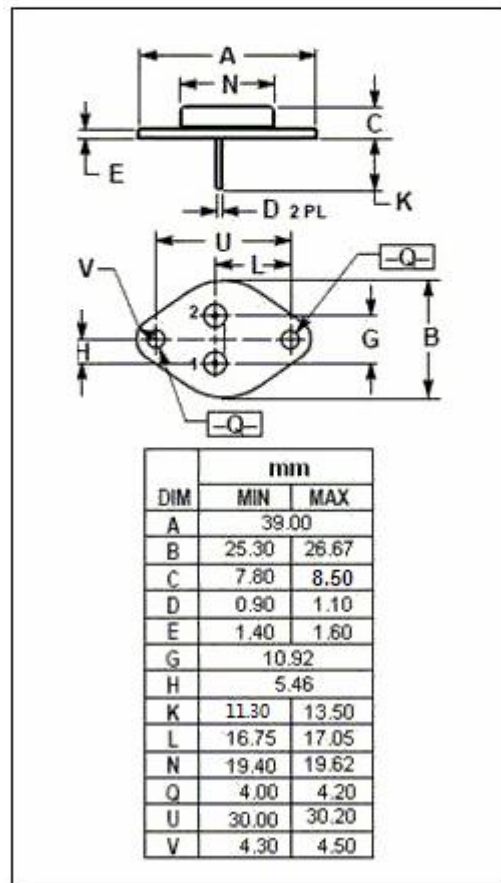
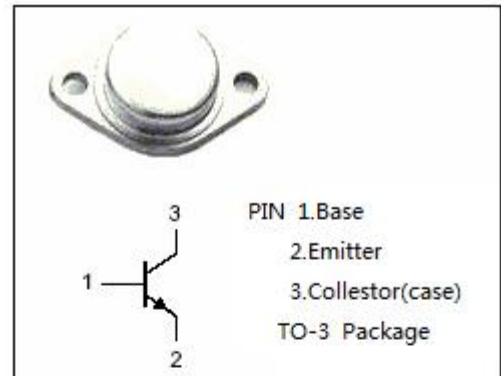
- Designed for use in industrial and commercial equipment including high fidelity audio amplifiers, series and shunt regulators and power switches.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	160	V
$V_{CEO}$	Collector-Emitter Voltage	140	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	10	A
$I_{CP}$	Collector Current-Peak	15	A
$I_B$	Base Current-Continuous	7	A
$P_C$	Collector Power Dissipation@ $T_C=25^\circ\text{C}$	117	W
$T_J$	Junction Temperature	200	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-65~200	$^\circ\text{C}$

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.49	$^\circ\text{C/W}$



**isc Silicon NPN Power Transistor****2N3442****ELECTRICAL CHARACTERISTICS** $T_C=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C= 30\text{mA}; I_B= 0$	140		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C= 10\text{A}; I_B= 2\text{A}$		5.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C= 10\text{A}; V_{CE}= 4\text{V}$		5.7	V
$I_{CEO}$	Collector Cutoff Current	$V_{CE}= 140\text{V}; I_B= 0$		10	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}= 7.0\text{V}; I_C= 0$		1	mA
$h_{FE-1}$	DC Current Gain	$I_C= 3\text{A}; V_{CE}= 4\text{V}$	20	70	
$h_{FE-2}$	DC Current Gain	$I_C= 10\text{A}; V_{CE}= 4\text{V}$	4		

**NOTICE:**

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