

**isc Silicon NPN Power Transistors**
**BDW36**
**DESCRIPTION**

- Collector-Emitter Sustaining Voltage-  
:  $V_{CE(SUS)} = 180V(\text{Min})$
- High Switching Speed
- Low Collector Saturation Voltage-  
:  $V_{CE(sat)} = 1.0V(\text{Max}) @ I_C = 10A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

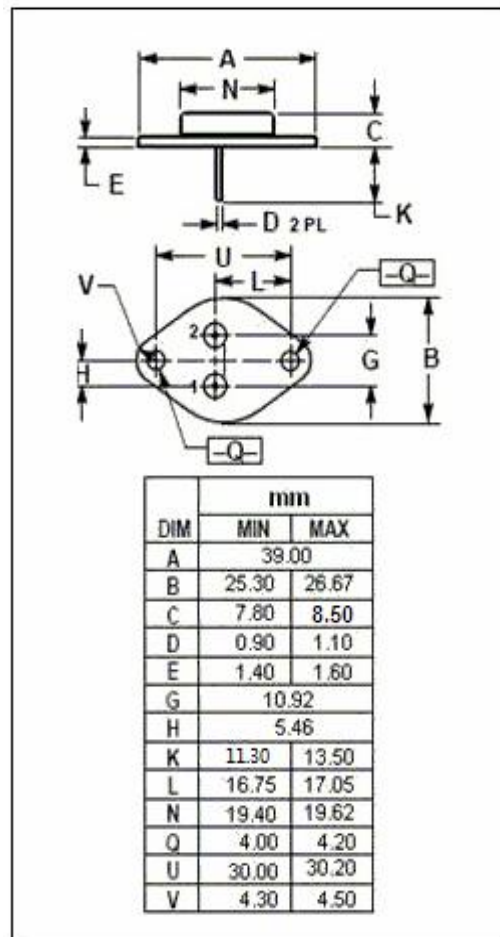
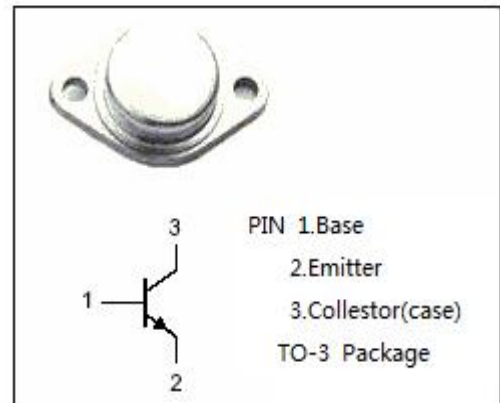
- Designed for use in industrial-military power amplifier and switching circuit applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	180	V
$V_{CEO}$	Collector-Emitter Voltage	180	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	30	A
$I_{CM}$	Collector Current-Peak	50	A
$I_B$	Base Current-Continuous	10	A
$P_C$	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	250	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	0.875	$^\circ\text{C/W}$



**isc Silicon NPN Power Transistors****BDW36****ELECTRICAL CHARACTERISTICS** $T_C=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CE0(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=50\text{mA}; I_B=0$	150		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=10\text{A}; I_B=1\text{A}$		1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=30\text{A}; I_B=6\text{A}$		3.0	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	$I_C=10\text{A}; I_B=1\text{A}$		1.8	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=10\text{A}; V_{CE}=4\text{V}$		1.8	V
$I_{CEO}$	Collector Cutoff Current	$V_{CE}=90\text{V}; I_B=0$		50	$\mu\text{A}$
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=180\text{V}; I_E=0$		10	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=6\text{V}; I_C=0$		0.1	mA
$h_{FE-1}$	DC Current Gain	$I_C=8\text{A}; V_{CE}=4\text{V}$	20	100	
$h_{FE-2}$	DC Current Gain	$I_C=30\text{A}; V_{CE}=4\text{V}$	5		
$f_T$	Current-Gain—Bandwidth Product	$I_C=1\text{A}; V_{CE}=10\text{V}$	1		MHz

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