

# isc Silicon NPN Power Transistor

BDY71X

## DESCRIPTION

- Continuous Collector Current- $I_C = 4A$
- Collector Power Dissipation-  
:  $P_C = 29W @ T_C = 25^\circ C$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

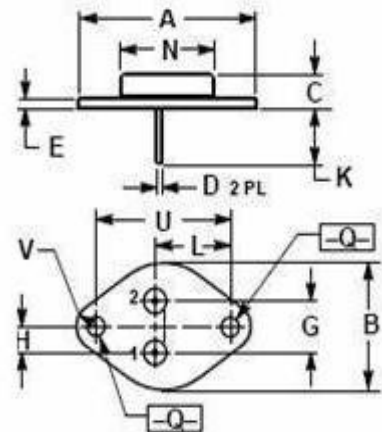
- Designed for accordance with the requirements of BS, CECC and JAN, JANTX, JANTXV and JANS specifications.

## ABSOLUTE MAXIMUM RATINGS( $T_a = 25^\circ C$ )

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	90	V
$V_{CEX}$	Collector-Emitter Voltage $V_{BE} = -1.5V$	90	V
$V_{CER}$	Collector-Emitter Voltage $R_{BE} = 100\Omega$	60	V
$V_{CEO}$	Collector-Emitter Voltage	55	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	4	A
$I_B$	Base Current-Continuous	2	A
$P_C$	Collector Power Dissipation@ $T_C = 25^\circ C$	29	W
$T_J$	Junction Temperature	200	$^\circ C$
$T_{stg}$	Storage Temperature	-65~200	$^\circ C$

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	6.0	$^\circ C/W$



DIM	mm	
	MIN	MAX
A	31.40	31.80
B	17.30	17.70
C	6.70	7.10
D	0.70	0.90
E	1.40	1.60
G	5.08	
H	2.54	
K	9.80	10.20
L	14.70	14.90
N	12.40	12.60
Q	3.60	3.80
U	24.30	24.50
V	3.50	3.70

**isc Silicon NPN Power Transistor****BDY71X****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=30\text{mA}; I_B=0$	55		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=1\text{mA}; I_C=0$	7		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=0.5\text{A}; I_B=50\text{mA}$		1.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=0.5\text{A}; V_{CE}=4\text{V}$		1.7	V
$I_{CEO}$	Collector Cutoff Current	$V_{CE}=30\text{V}; I_B=0$		0.5	mA
$I_{CEV}$	Collector Cutoff Current	$V_{CE}=90\text{V}; V_{BE(off)}=1.5\text{V}$ $V_{CE}=30\text{V}; V_{BE(off)}=1.5\text{V}, T_C=150^{\circ}\text{C}$		1.0 5.0	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=7\text{V}; I_C=0$		1.0	mA
$h_{FE}$	DC Current Gain	$I_C=0.5\text{A}; V_{CE}=4\text{V}$	80	250	
$f_T$	Current Gain-Bandwidth Product	$I_C=0.2\text{A}; V_{CE}=10\text{V}$	0.8		MHz

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