

isc Silicon NPN Power Transistor

BU931RP

DESCRIPTION

- High Voltage
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

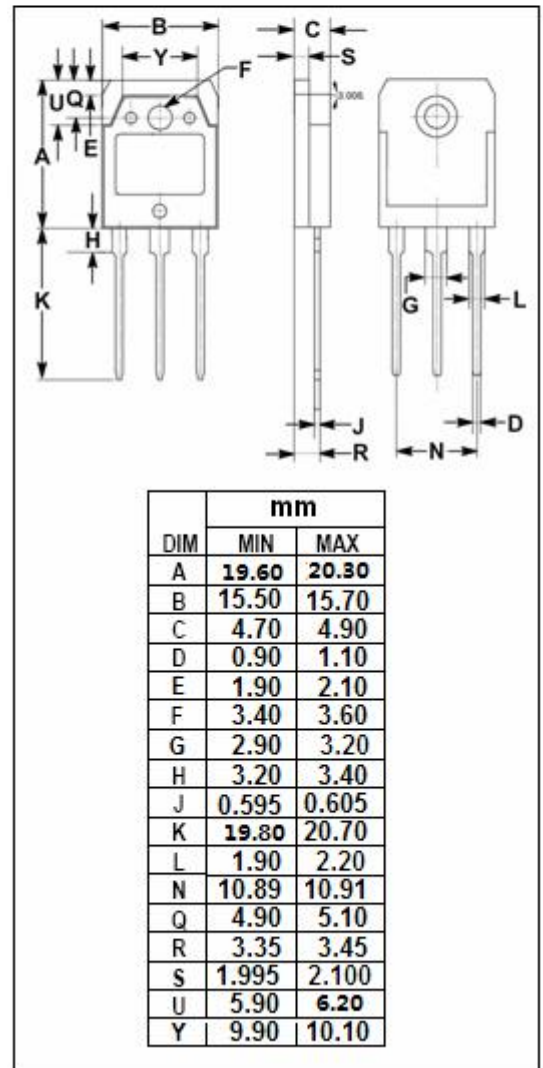
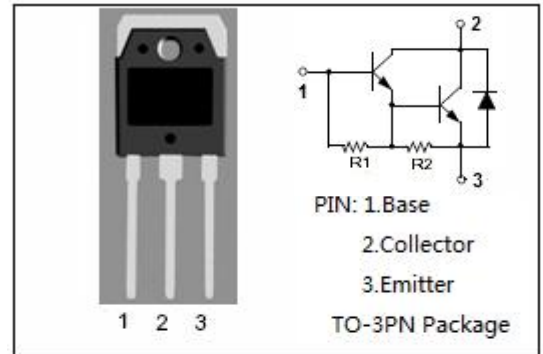
- High ruggedness electronic ignitions
- High voltage ignition coil driver

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	400	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	15	A
I_{CM}	Collector Current-peak	30	A
I_B	Base Current	1	A
I_{BM}	Base Current-peak	5	A
P_C	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	125	W
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-40~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.0	$^\circ\text{C/W}$



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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	$I_C=50\text{mA}$; $I_B=0$; $L=10\text{mH}$	400			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=7\text{A}$; $I_B=70\text{mA}$			1.6	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=8\text{A}$; $I_B=100\text{mA}$			1.8	V
$V_{CE(sat)-3}$	Collector-Emitter Saturation Voltage	$I_C=10\text{A}$; $I_B=250\text{mA}$			1.8	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	$I_C=8\text{A}$; $I_B=100\text{mA}$			2.2	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	$I_C=10\text{A}$; $I_B=250\text{mA}$			2.2	V
I_{CES}	Collector Cutoff Current	$V_{CE}=450\text{V}$; $V_{BE}=0$ $V_{CE}=450\text{V}$; $V_{BE}=0$; $T_j=125^{\circ}\text{C}$			1.0 5.0	mA
I_{CEO}	Collector Cutoff Current	$V_{CE}=400\text{V}$; $I_B=0$			1.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}$; $I_C=0$			50	mA
h_{FE}	DC Current Gain	$I_C=5\text{A}$; $V_{CE}=10\text{V}$	300			
V_{ECF}	C-E Diode Forward Voltage	$I_F=10\text{A}$			2.8	V

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