

INCHANGE Semiconductor

isc Product Specification

isc Silicon NPN Power Transistor

BU931ZPFI

DESCRIPTION

- High Voltage
- DARLINGTON
- Integrated High Voltage Zener

APPLICATIONS

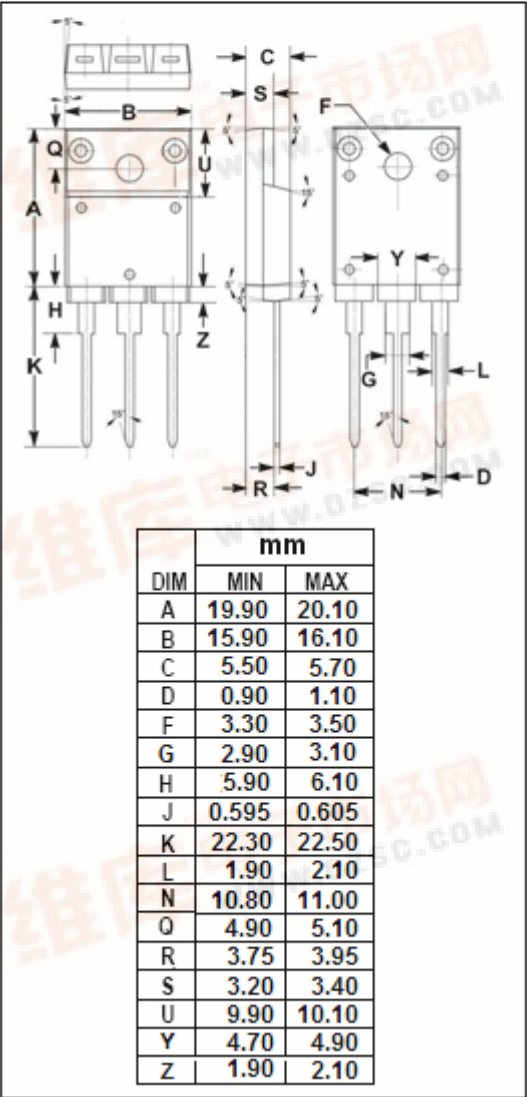
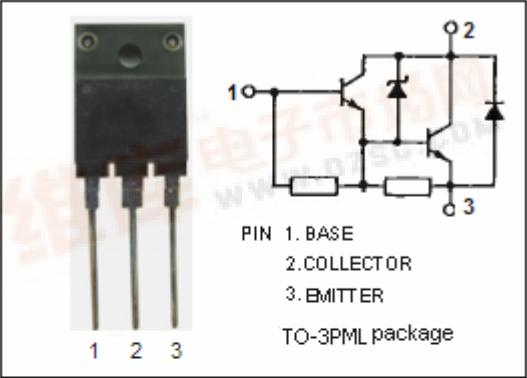
- Application in high performance electronic car ignition

ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CBO}	Collector-Base Voltage	350	V
V _{CER}	Collector-Emitter Voltage (R _{BE} =100 Ω)	350	V
V _{CES}	Collector-Emitter Voltage (V _{BE} =0)	350	V
V _{CEO}	Collector-Emitter Voltage	350	V
V _{EBO}	Emitter-Base Voltage	5	V
I _C	Collector Current	20	A
I _B	Base Current	5	A
P _C	Collector Power Dissipation @T _C =25°C	60	W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature Range	-40~150	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal Resistance, Junction to Case	2.08	°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_{CL}	Clamping Voltage	$I_C=100\text{mA}$; $I_B=0$ $I_C=100\text{mA}$; $I_B=0$; $T_J=125^{\circ}\text{C}$	350 350		500 500	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	$I_C=10\text{A}$; $I_B=150\text{mA}$			2	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	$I_C=10\text{A}$; $I_B=250\text{mA}$			2.5	V
$V_{BE(on)-1}$	Base-Emitter On Voltage	$I_C=5\text{A}$; $V_{CE}=2\text{V}$		1.67		V
$V_{BE(on)-2}$	Base-Emitter On Voltage	$I_C=10\text{A}$; $V_{CE}=2\text{V}$		2		V
$I_{CE(off)}$	Collector Cutoff Current	$V_{CC}=16\text{V}$; $V_{BE}=300\text{mV}$; $T_J=125^{\circ}\text{C}$			0.5	mA
I_{CL}	Clamping Current	$V_{CE}=350\text{V}$; $I_B=0$			0.25	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}$; $I_C=0$			50	mA
h_{FE}	DC Current Gain	$I_C=5\text{A}$; $V_{CE}=2\text{V}$	300			
V_{ECF}	C-E Diode Forward Voltage	$I_F=10\text{A}$			2.5	V