

SPTECH Silicon NPN Power Transistor

BU931

DESCRIPTION

- High Voltage
- DARLINGTON

APPLICATIONS

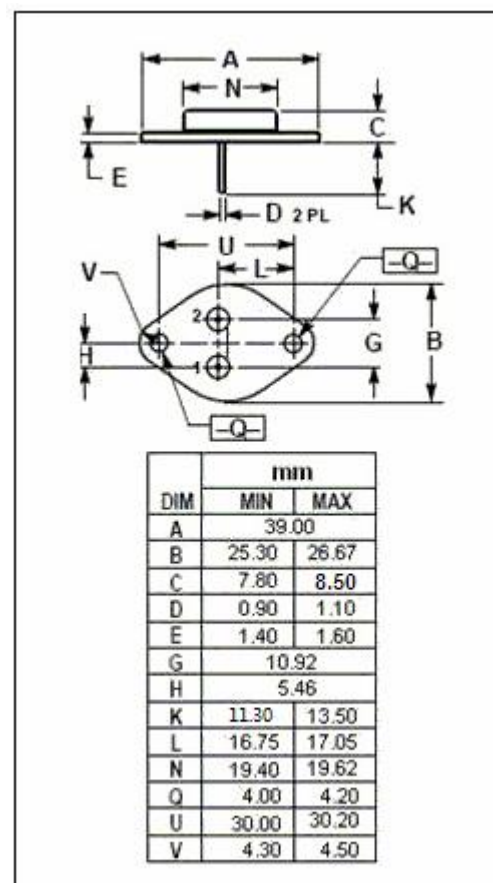
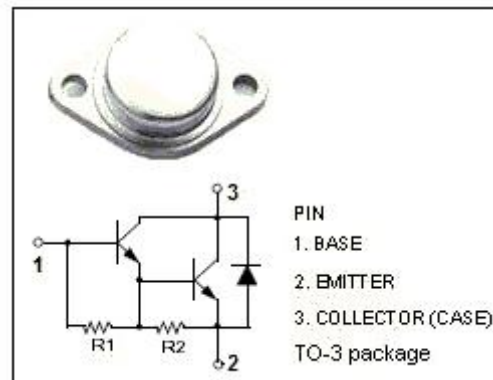
- High ruggedness electronic ignitions
- High voltage ignition coil driver

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	500	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 @ $T_{\text{C}}=25^{\circ}\text{C}$	175	W
T_{j}	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^{\circ}\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{\text{th j-c}}$	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	$I_C=50\text{mA}; I_B=0;$	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	$I_C=7\text{A}; I_B=70\text{mA}$			2.2	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	$I_C=8\text{A}; I_B=100\text{mA}$			2.4	V
$V_{BE(sat)-3}$	Base-Emitter Saturation Voltage	$I_C=10\text{A}; I_B=250\text{mA}$			2.5	V
I_{CES}	Collector Cutoff Current	$V_{CE}=500\text{V}; V_{BE}=0$ $V_{CE}=500\text{V}; V_{BE}=0; T_j=125^{\circ}\text{C}$			0.1 0.5	mA
I_{CEO}	Collector Cutoff Current	$V_{CE}=450\text{V}; I_B=0$ $V_{CE}=450\text{V}; I_B=0; T_j=125^{\circ}\text{C}$			0.1 0.5	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			20	mA
h_{FE}	DC Current Gain	$I_C=5\text{A}; V_{CE}=10\text{V}$	300			
V_{ECF}	C-E Diode Forward Voltage	$I_F=10\text{A}$			2.5	V