

**Silicon NPN Power Transistor**

**BU941**

**DESCRIPTION**

- High Voltage
- DARLINGTON

**APPLICATIONS**

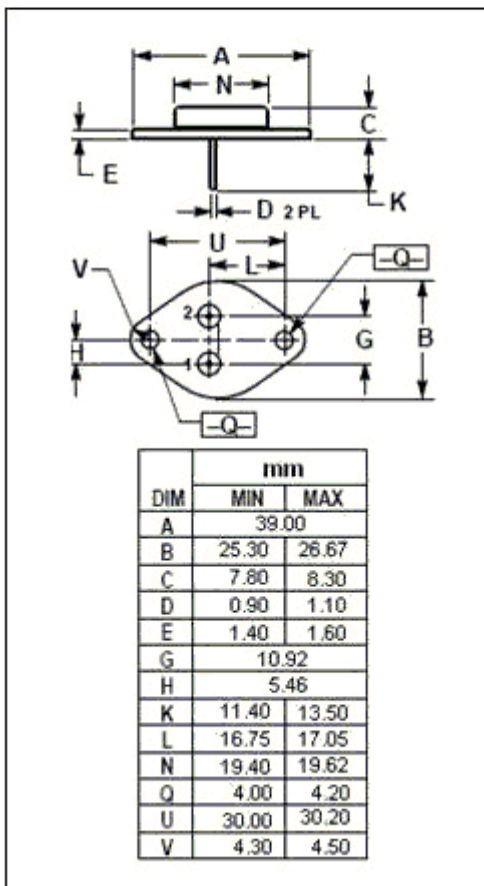
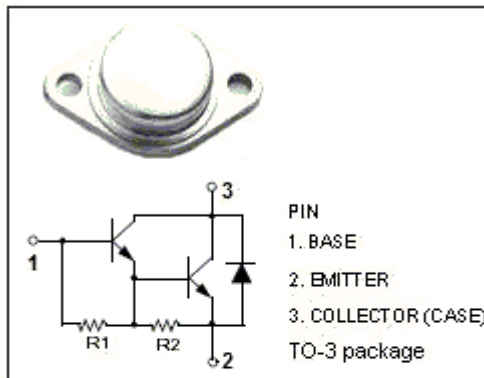
- High ruggedness electronic ignitions
- High voltage ignition coil driver

**ABSOLUTE MAXIMUM RATINGS (T<sub>a</sub>=25 )**

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>CBO</sub>	Collector-Base Voltage	500	V
V <sub>CEO</sub>	Collector-Emitter Voltage	400	V
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current- Continuous	15	A
I <sub>CM</sub>	Collector Current-Peak	30	A
I <sub>B</sub>	Base Current	1	A
I <sub>BM</sub>	Base Current-Peak	5	A
P <sub>C</sub>	Collector Power Dissipation @T <sub>C</sub> =25	180	W
T <sub>j</sub>	Junction Temperature	200	
T <sub>stg</sub>	Storage Temperature Range	-65~200	

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal Resistance, Junction to Case	0.97	/W



## Silicon NPN Power Transistor

BU941

## ELECTRICAL CHARACTERISTICS

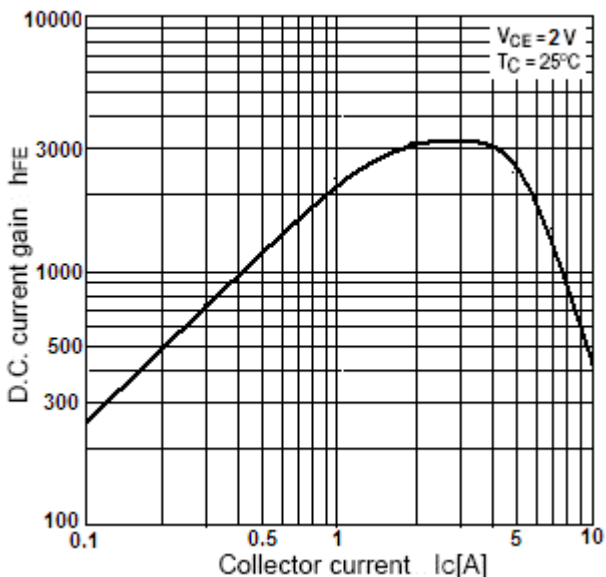
 $T_C=25$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C= 0.1A; I_B= 0; L= 10mH$	400			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C= 8 A; I_B= 100mA$			1.6	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C= 10 A; I_B= 250mA$			1.8	V
$V_{CE(sat)-3}$	Collector-Emitter Saturation Voltage	$I_C= 12 A; I_B= 300mA$			2.0	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	$I_C= 8 A; I_B= 100mA$			2.2	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	$I_C= 10 A; I_B= 250mA$			2.5	V
$V_{BE(sat)-3}$	Base-Emitter Saturation Voltage	$I_C= 12 A; I_B= 300mA$			2.7	V
$I_{CES}$	Collector Cutoff Current	$V_{CE}= 500V; V_{BE}= 0$ $V_{CE}= 500V; V_{BE}= 0; T_j= 125$			0.1 0.5	mA
$I_{CEO}$	Collector Cutoff Current	$V_{CE}= 450V; I_B= 0$ $V_{CE}= 450V; I_B= 0; T_j= 125$			0.1 0.5	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}= 5V; I_C= 0$			20	mA
$h_{FE}$	DC Current Gain	$I_C= 5A ; V_{CE}= 10V$	300			
$V_{ECF}$	C-E Diode Forward Voltage	$I_F= 10A$			2.5	V

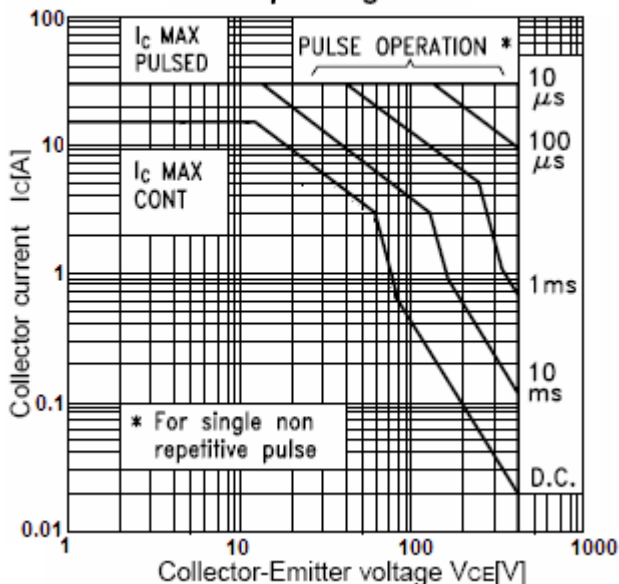
Silicon NPN Power Transistor

BU941

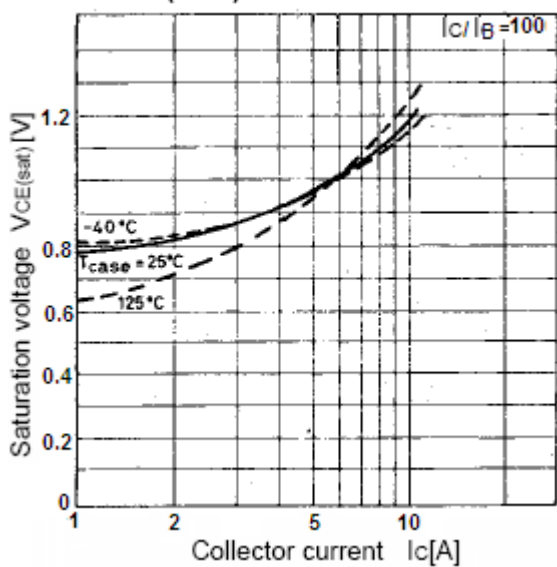
**$h_{FE}-I_C$  Characteristics**



**Safe Operating Area**



**$V_{CE(sat)}-I_C$  Characteristics**



**$V_{BE(sat)}-I_C$  Characteristics**

