

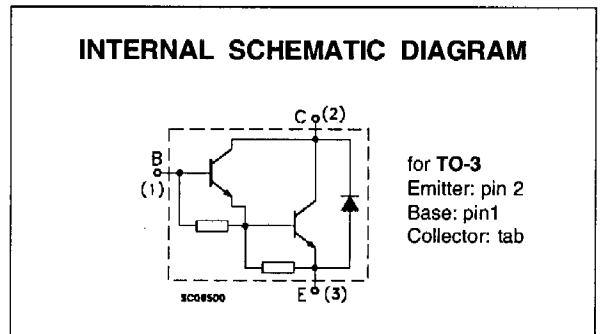
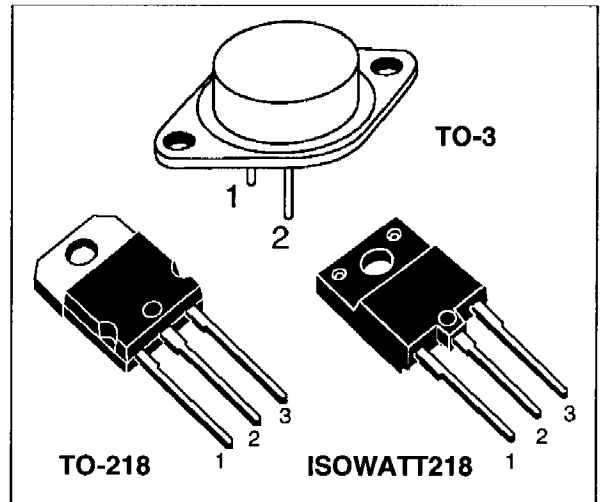
BU941/BU941P
BU941PFI

HIGH VOLTAGE IGNITION COIL DRIVER
NPN POWER DARLINGTON

- NPN DARLINGTON
- INTEGRATED ANTIPARALLEL COLLECTOR-EMITTER DIODE
- VERY RUGGED BIPOLAR TECHNOLOGY
- HIGH OPERATING JUNCTION TEMPERATURE
- WIDE RANGE OF PACKAGES

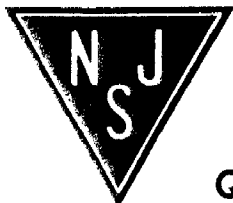
APPLICATIONS

- HIGH RUGGEDNESS ELECTRONIC IGNITIONS



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value			Unit
		BU941	BU941P	BUB941PFI	
V _{CES}	Collector-Emitter Voltage (V _{BE} = 0)	500			V
V _{CEO}	Collector-Emitter Voltage (I _B = 0)	400			V
V _{EBO}	Emitter-Base Voltage (I _C = 0)	5			V
I _C	Collector Current	15			A
I _{CM}	Collector Peak Current	30			A
I _B	Base Current	1			A
I _{BM}	Base Peak Current	5			A
P _{tot}	Total Dissipation at T _c = 25 °C	180	155	65	W
T _{stg}	Storage Temperature	-65 to 200	-65 to 175	-65 to 175	°C
T _j	Max. Operating Junction Temperature	200	175	175	°C



BU941 / BU941P / BUB941PFI

THERMAL DATA

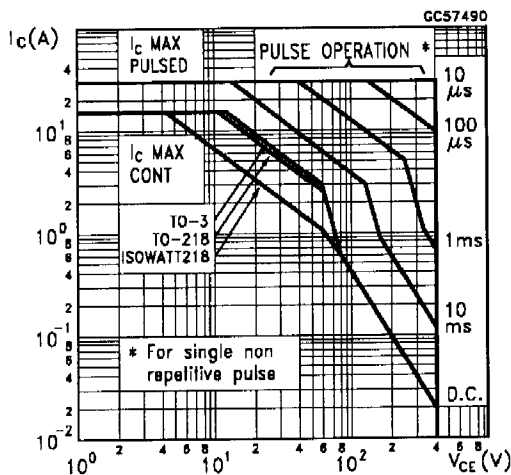
		TO-3	TO-218	ISOWATT218	
$R_{thj-case}$	Thermal Resistance Junction-case Max	0.97	0.97	2.3	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CES}	Collector Cut-off Current ($V_{BE} = 0$)	$V_{CE} = 500\text{ V}$ $V_{CE} = 500\text{ V}$ $T_j = 125^{\circ}\text{C}$			100 0.5	μA mA
I_{CEO}	Collector Cut-off Current ($I_B = 0$)	$V_{CE} = 450\text{ V}$ $V_{CE} = 450\text{ V}$ $T_j = 125^{\circ}\text{C}$			100 0.5	μA mA
I_{EBO}	Emitter Cut-off Current ($I_C = 0$)	$V_{EB} = 5\text{ V}$			20	mA
$V_{CEO(sus)}^*$	Collector-Emitter Sustaining Voltage ($I_B = 0$)	$I_C = 100\text{ mA}$ $L = 10\text{ mH}$ $V_{Clamp} = 400\text{ V}$ (See FIG.4)	400			V
$V_{CE(sat)}^*$	Collector-Emitter Saturation Voltage	$I_C = 8\text{ A}$ $I_B = 100\text{ mA}$ $I_C = 10\text{ A}$ $I_B = 250\text{ mA}$ $I_C = 12\text{ A}$ $I_B = 300\text{ mA}$			1.6 1.8 2	V V V
$V_{BE(sat)}^*$	Base-Emitter Saturation Voltage	$I_C = 8\text{ A}$ $I_B = 100\text{ mA}$ $I_C = 10\text{ A}$ $I_B = 250\text{ mA}$ $I_C = 12\text{ A}$ $I_B = 300\text{ mA}$			2.2 2.5 2.7	V V V
h_{FE}^*	DC Current Gain	$I_C = 5\text{ A}$ $V_{CE} = 10\text{ V}$	300			
V_F	Diode Forward Voltage	$I_F = 10\text{ A}$			2.5	V
	Functional Test (see fig. 1)	$V_{CC} = 24\text{ V}$ $V_{Clamp} = 400\text{ V}$ $L = 7\text{ mH}$	10			A
t_s t_f	INDUCTIVE LOAD Storage Time Fall Time (see fig. 3)	$V_{CC} = 12\text{ V}$ $V_{Clamp} = 300\text{ V}$ $V_{BE} = 0$ $R_{BE} = 47\ \Omega$ $L = 7\text{ mH}$ $I_C = 7\text{ A}$ $I_B = 70\text{ mA}$		15 0.5		μs μs

* Pulsed: Pulse duration = 300 μs , duty cycle 1.5 %

Safe Operating Area



DC Current Gain

