

勝特力材料 886-3-5753170
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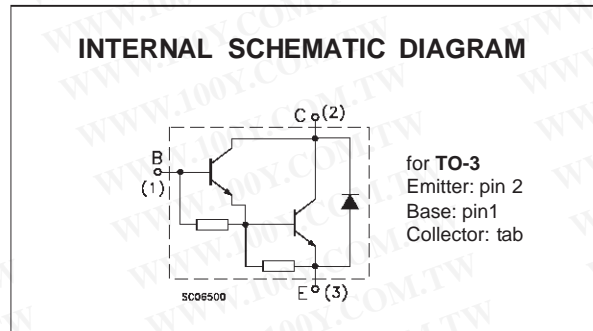
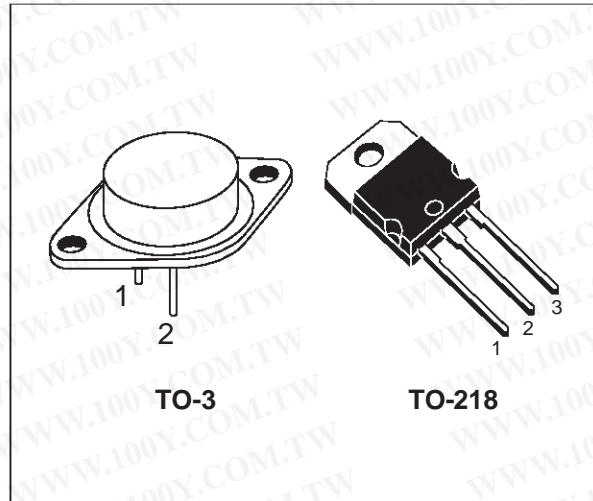
BU931 BU931P

HIGH VOLTAGE IGNITION COIL DRIVER NPN POWER DARLINGTON

- VERY RUGGED BIPOLAR TECHNOLOGY
- HIGH OPERATING JUNCTION TEMPERATURE
- WIDE RANGE OF PACKAGES

APPLICATIONS

- HIGH RUGGEDNESS ELECTRONIC IGNITIONS



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		BU931	BU931P	
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 $T_C = 25^\circ C$	175	135	W
T_{stg}	Storage Temperature	-65 to 200	-65 to 175	$^\circ C$
T_j	Max. Operating Junction Temperature	200	175	$^\circ C$

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THERMAL DATA

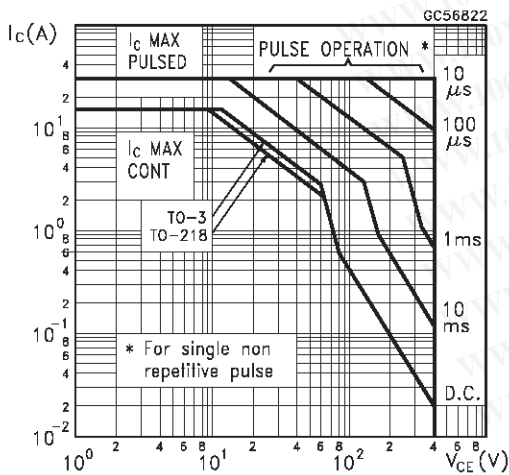
		TO-3	TO-218	
R _{thj-case}	Thermal Resistance Junction-case Max	1	1.1	°C/W

ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

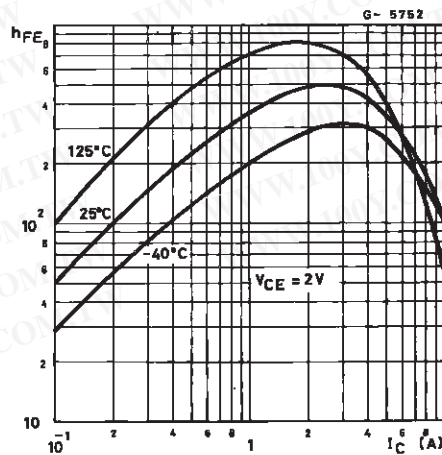
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CES}	Collector Cut-off Current (V _{BE} = 0)	V _{CE} = 500 V V _{CE} = 500 V T _j = 125 °C			100 0.5	μA mA
I _{CEO}	Collector Cut-off Current (I _B = 0)	V _{CE} = 450 V V _{CE} = 450 V T _j = 125 °C			100 0.5	μA mA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{EB} = 5 V			20	mA
V _{CEO(sus)*}	Collector-Emitter Sustaining Voltage (I _B = 0)	I _C = 100 mA L = 10 mH V _{Clamp} = 400 V (See Fig.4)	400			V
V _{CE(sat)*}	Collector-Emitter Saturation Voltage	I _C = 7 A I _B = 70 mA I _C = 8 A I _B = 100 mA I _C = 10 A I _B = 250 mA			1.6 1.8 1.8	V V V
V _{BE(sat)*}	Base-Emitter Saturation Voltage	I _C = 7 A I _B = 70 mA I _C = 8 A I _B = 100 mA I _C = 10 A I _B = 250 mA			2.2 2.4 2.5	V V V
h _{FE*}	DC Current Gain	I _C = 5 A V _{CE} = 10 V	300			
V _F	Diode Forward Voltage	I _F = 10 A			2.5	V
	Functional Test (see fig. 1)	V _{CC} = 24 V V _{clamp} = 400 V L = 7 mH	8			A
t _s	INDUCTIVE LOAD Storage Time	V _{CC} = 12 V V _{clamp} = 300 V L = 7 mH		15		μs
t _f	Fall Time (see fig. 3)	I _C = 7 A I _B = 70 mA V _{BE} = 0 R _{BE} = 47 Ω		0.5		μs

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

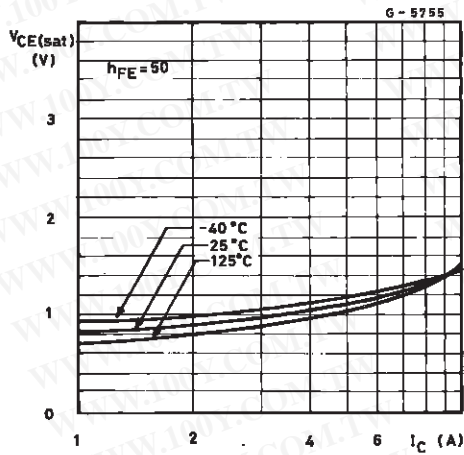
Safe Operating Area



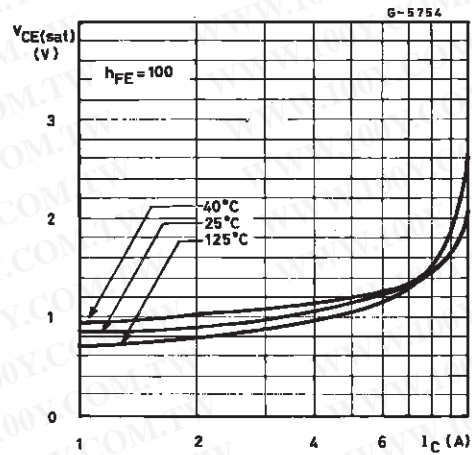
DC Current Gain



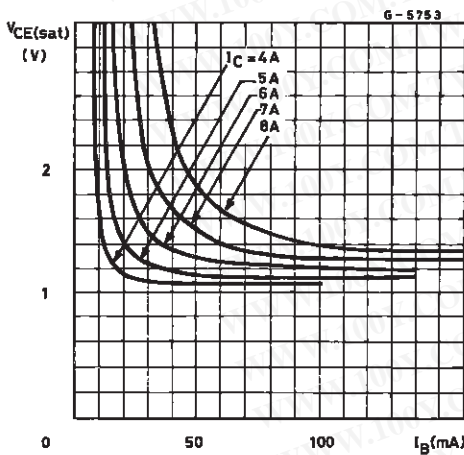
Collector Emitter Saturation Voltage



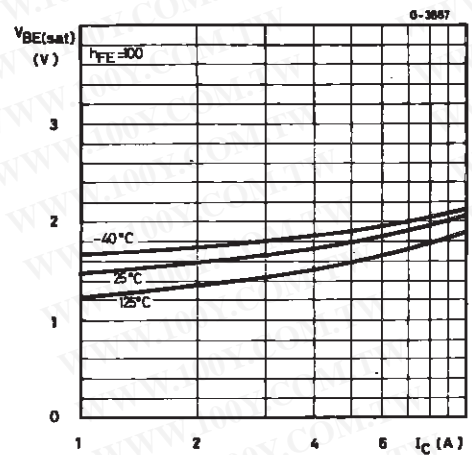
Collector Emitter Saturation Voltage



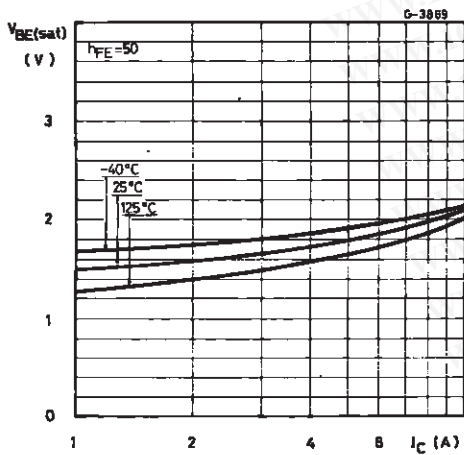
Collector Emitter Saturation Voltage



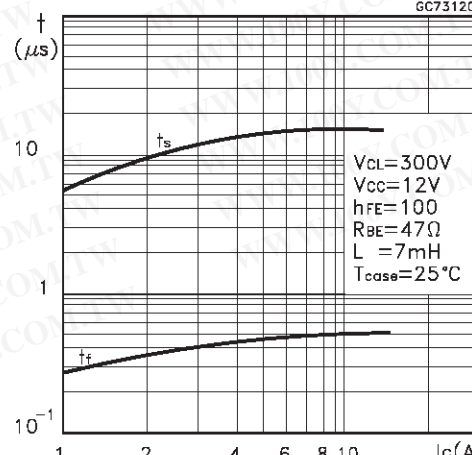
Base Emitter Saturation Voltage



Base Emitter Saturation Voltage



Switching Time Inductive Load



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FIGURE 1: Functional Test Circuit

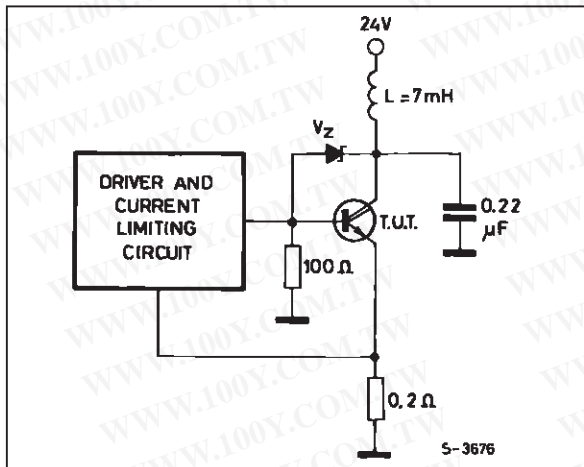


FIGURE 2: Functional Test Waveforms

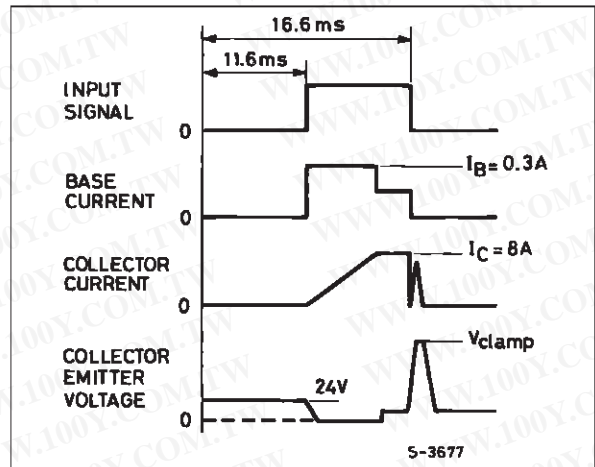


FIGURE 3: Switching Time Test Circuit

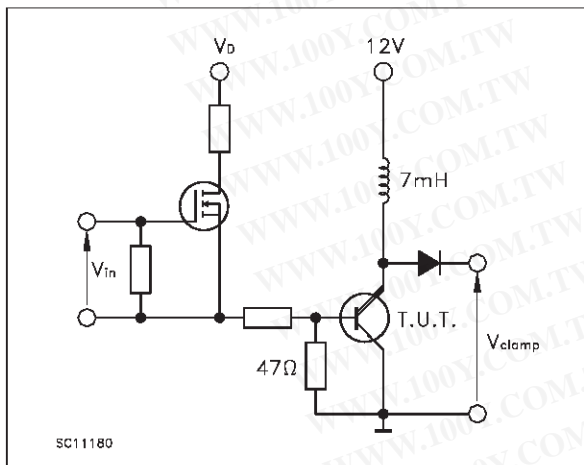
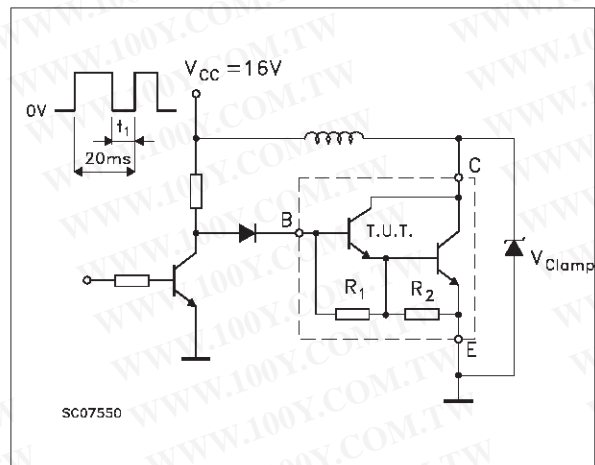
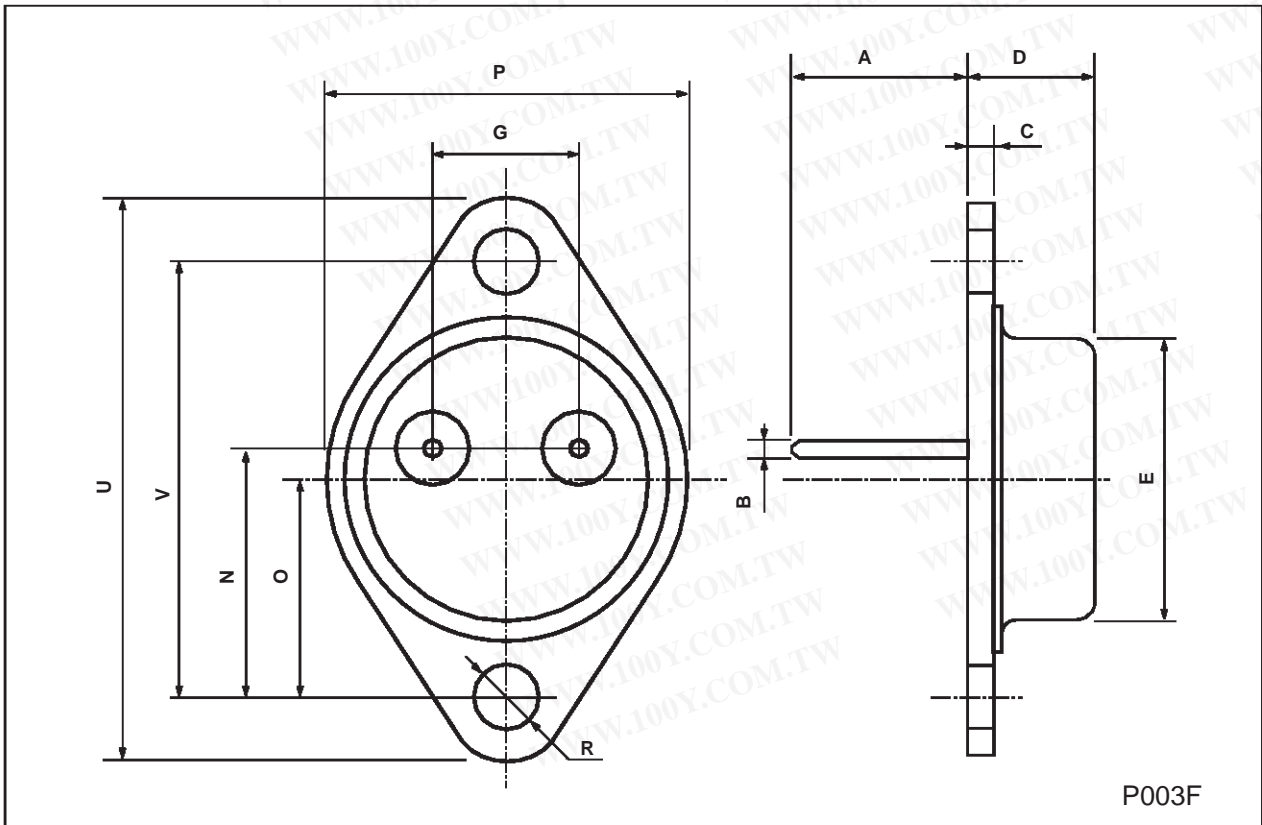


FIGURE 4: Sustaining Voltage Test Circuit



TO-3 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	11.00		13.10	0.433		0.516
B	0.97		1.15	0.038		0.045
C	1.50		1.65	0.059		0.065
D	8.32		8.92	0.327		0.351
E	19.00		20.00	0.748		0.787
G	10.70		11.10	0.421		0.437
N	16.50		17.20	0.649		0.677
P	25.00		26.00	0.984		1.023
R	4.00		4.09	0.157		0.161
U	38.50		39.30	1.515		1.547
V	30.00		30.30	1.187		1.193



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TO-218 (SOT-93) MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	4.7		4.9	0.185		0.193
C	1.17		1.37	0.046		0.054
D		2.5			0.098	
E	0.5		0.78	0.019		0.030
F	1.1		1.3	0.043		0.051
G	10.8		11.1	0.425		0.437
H	14.7		15.2	0.578		0.598
L2	-		16.2	-		0.637
L3		18			0.708	
L5	3.95		4.15	0.155		0.163
L6		31			1.220	
R	-		12.2	-		0.480
Ø	4		4.1	0.157		0.161

