

BU208A / BU508A / BU508AFI

THERMAL DATA

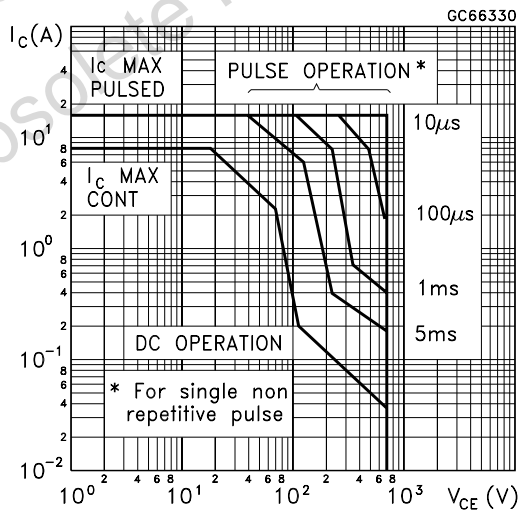
			TO-3	TO-218	ISOWATT218	
$R_{thj-case}$	Thermal Resistance Junction-case	Max	1	1	2.5	°C/W

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

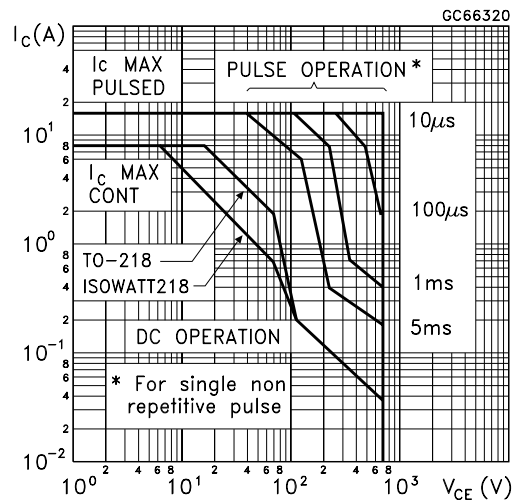
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CES}	Collector Cut-off Current ($V_{BE} = 0$)	$V_{CE} = 1500\text{ V}$ $V_{CE} = 1500\text{ V}$ $T_C = 125\text{ }^{\circ}\text{C}$			1 2	mA mA
I_{EBO}	Emitter Cut-off Current ($I_C = 0$)	$V_{EB} = 5\text{ V}$			100	μA
$V_{CEO(sus)*}$	Collector-Emitter Sustaining Voltage ($I_B = 0$)	$I_C = 100\text{ mA}$	700			V
V_{EBO}	Emitter Base Voltage ($I_C = 0$)	$I_E = 10\text{ mA}$	10			V
$V_{CE(sat)*}$	Collector-Emitter Saturation Voltage	$I_C = 4.5\text{ A}$ $I_B = 2\text{ A}$			1	V
$V_{BE(sat)*}$	Base-Emitter Saturation Voltage	$I_C = 4.5\text{ A}$ $I_B = 2\text{ A}$			1.3	V
t_s t_f	INDUCTIVE LOAD Storage Time Fall Time	$I_C = 4.5\text{ A}$ $h_{FE} = 2.5$ $V_{CC} = 140\text{ V}$ $L_C = 0.9\text{ mH}$ $L_B = 3\text{ }\mu\text{H}$		7 550		μs ns
f_T	Transition Frequency	$I_C = 0.1\text{ A}$ $V_{CE} = 5\text{ V}$ $f = 5\text{ MHz}$		7		MHz

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

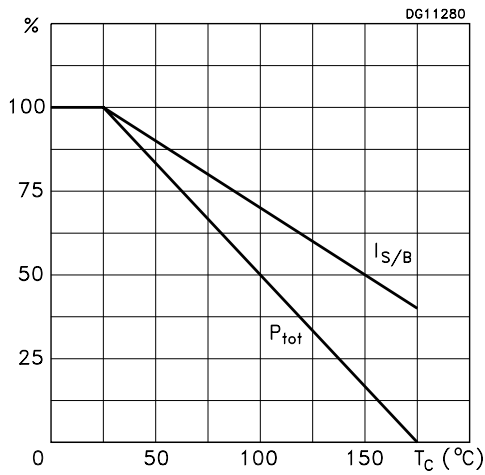
Safe Operating Area (TO-3)



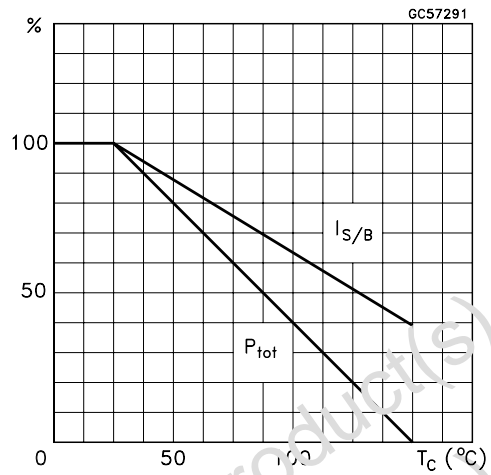
Safe Operating Areas (TO-218/ISOWATT218)



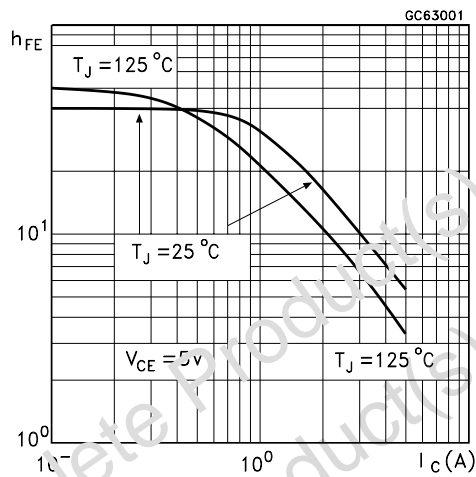
Derating Curves (TO-3)



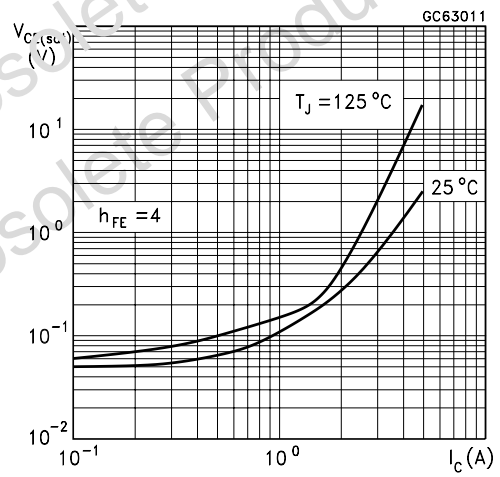
Derating Curves (TO-218/ISOWATT218)



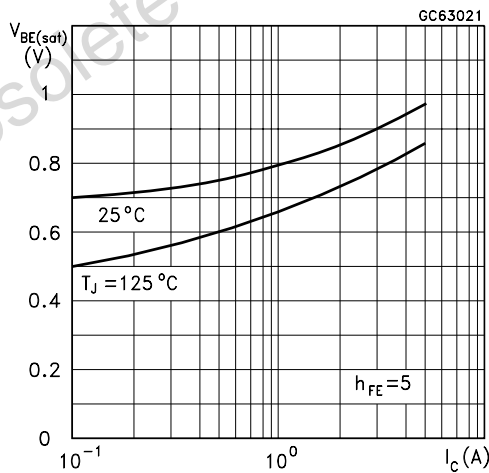
DC Current Gain



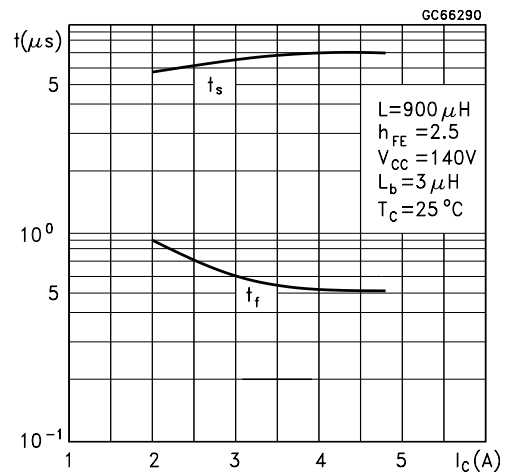
Collector Emitter Saturation Voltage



Base Emitter Saturation Voltage



Switching Time Inductive Load



Switching Time Inductive Load

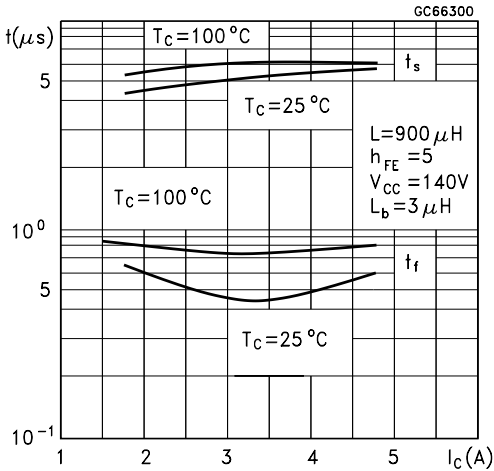
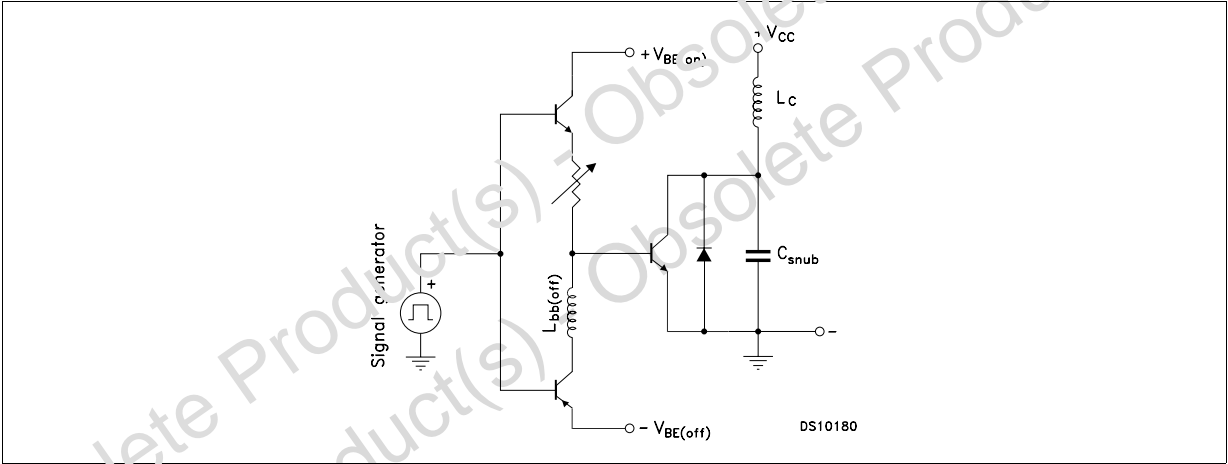
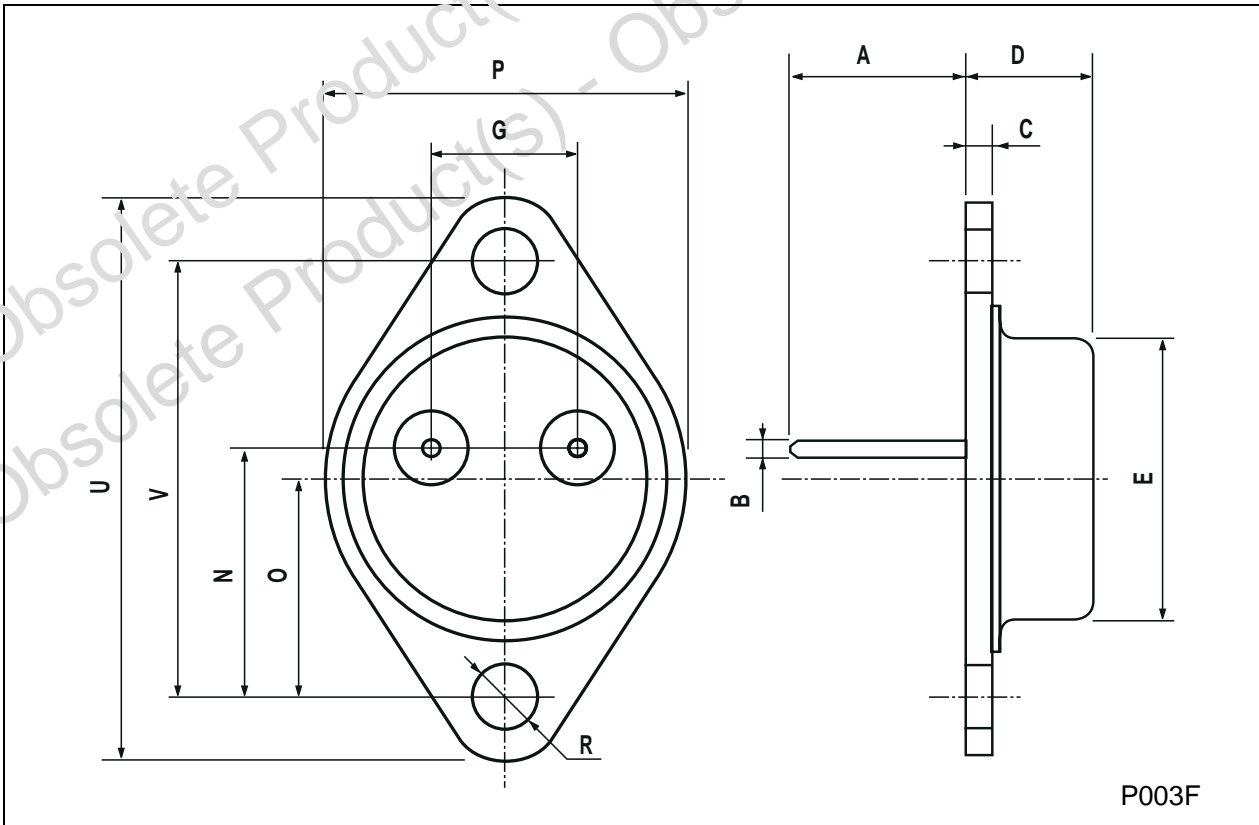


Figure 1: Inductive Load Switching Test Circuit.



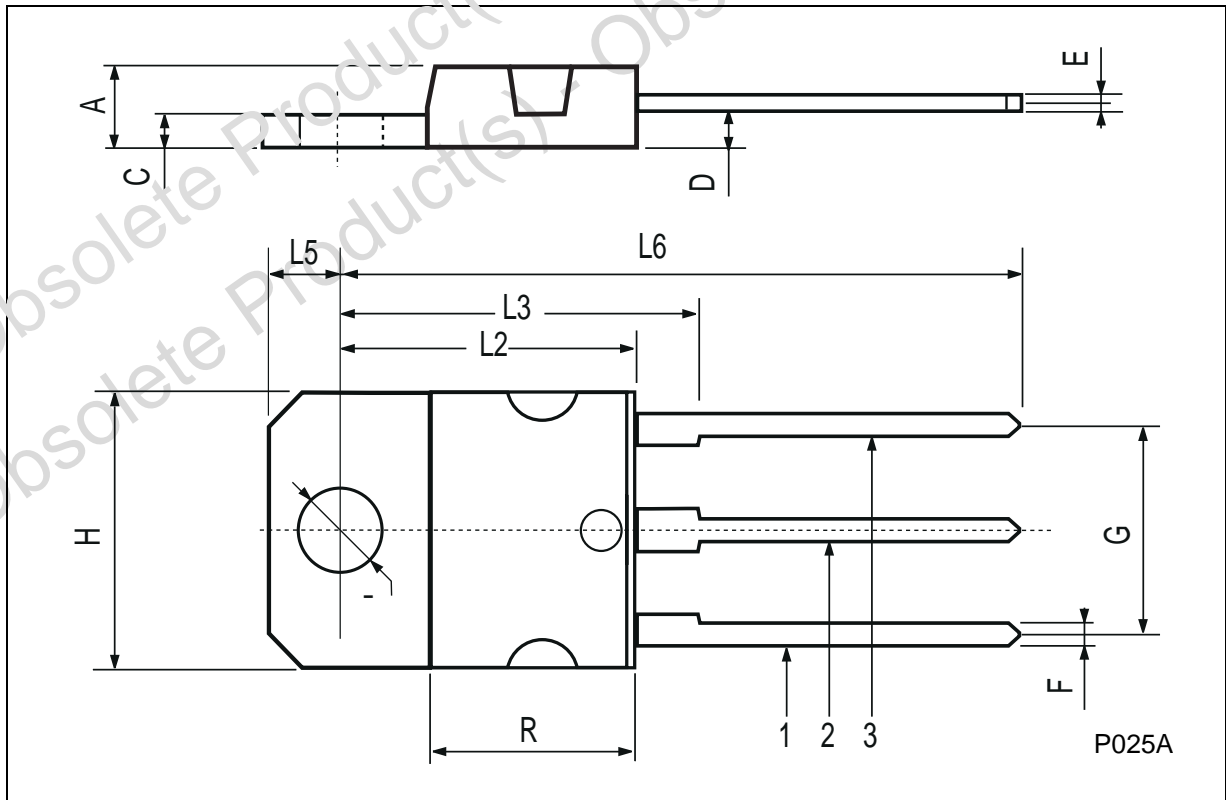
TO-3 MECHANICAL DATA

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



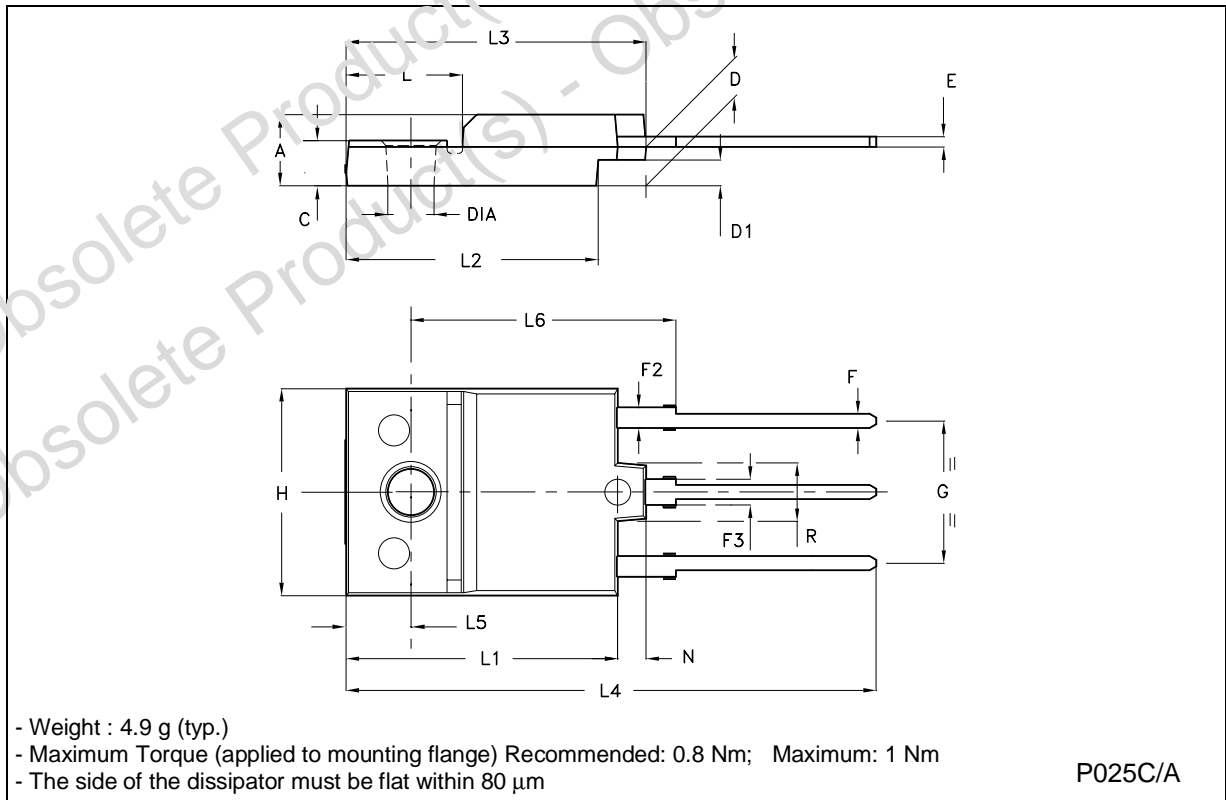
TO-218 (SOT-93) MECHANICAL DATA

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



ISOWATT218 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	5.35		5.65	0.211		0.222
C	3.30		3.80	0.130		0.150
D	2.90		3.10	0.114		0.122
D1	1.88		2.08	0.074		0.082
E	0.75		0.95	0.030		0.037
F	1.05		1.25	0.041		0.049
F2	1.50		1.70	0.059		0.067
F3	1.90		2.10	0.075		0.083
G	10.80		11.20	0.425		0.441
H	15.80		16.20	0.622		0.638
L		9			0.354	
L1	20.80		21.20	0.819		0.835
L2	19.10		19.90	0.752		0.783
L3	22.80		23.60	0.898		0.929
L4	40.50		42.50	1.594		1.673
L5	4.85		5.25	0.191		0.207
L6	20.25		20.75	0.797		0.817
N	2.1		2.3	0.083		0.091
R		4.6			0.181	
DIA	3.5		3.7	0.138		0.146



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