THERMAL DATA

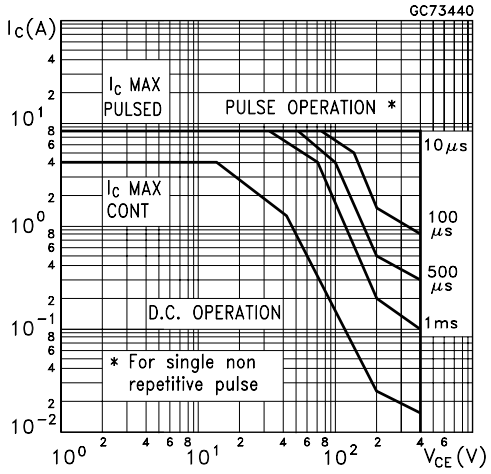
$R_{thj\text{-}case}$	Thermal Resistance Junction-Case Max	2.27	°C/W
$R_{thj\text{-}amb}$	Thermal Resistance Junction-Ambient Max	80	°C/W

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

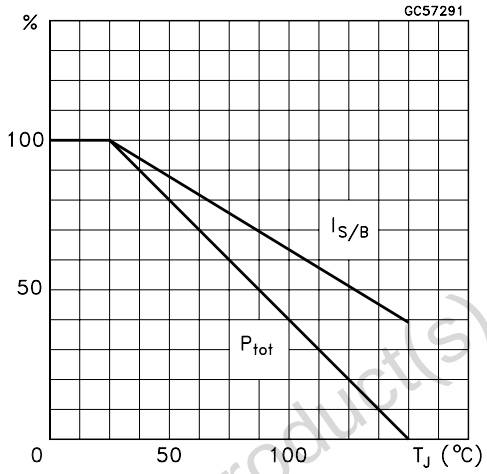
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CES}	Collector Cut-off Current (V_{BE} = -1.5 V)	V_{CE} = 700 V V_{CE} = 700 V T_C = 125 °C			100 500	µA µA
I_{CEO}	Collector-Emitter Leakage Current (I_B = 0)	V_{CE} = 400 V			250	µA
BV_{EBO}	Emitter-Base Breakdown Voltage (I_C = 0)	I_E = 10 mA	9		18	V
$V_{CEO(sus)}$*	Collector-Emitter Sustaining Voltage (I_B = 0)	I_C = 100 mA L = 25 mH	400			V
$V_{CE(sat)}$*	Collector-Emitter Saturation Voltage	I_C = 0.5 A I_B = 0.1 A I_C = 1 A I_B = 0.2 A I_C = 2.5 A I_B = 0.5 A			0.7 1 1.5	V V V
$V_{BE(sat)}$*	Base-Emitter Saturation Voltage	I_C = 0.5 A I_B = 0.1 A I_C = 1 A I_B = 0.2 A I_C = 2.5 A I_B = 0.5 A			1.1 1.2 1.3	V V V
h_{FE}*	DC Current Gain	I_C = 10 mA V_{CE} = 5 V I_C = 2 A V_{CE} = 5 V	10 8		 40	
V_f	Forward Voltage Drop	I_f = 2 A			2.5	V
 t_s t_f	RESISTIVE LOAD Storage Time Fall Time	V_{CC} = 250 V I_C = 2 A I_{B1} = 0.4 A I_{B2} = -0.4 A T_p = 30 µs (see fig. 2)	 2	 0.2	 2.9	 µs µs
 t_s t_f	INDUCTIVE LOAD Storage Time Fall Time	V_{CC} = 200 V I_C = 2 A I_{B1} = 0.4 A $V_{BE(off)}$ = -5 V R_{BB} = 0 Ω L = 200 µH (see fig. 1)		 0.6 0.1		 µs µs

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

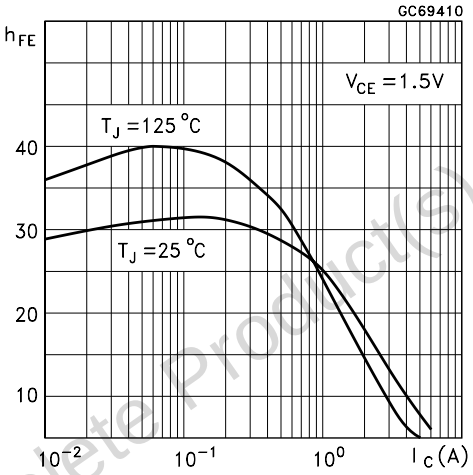
Safe Operating Areas



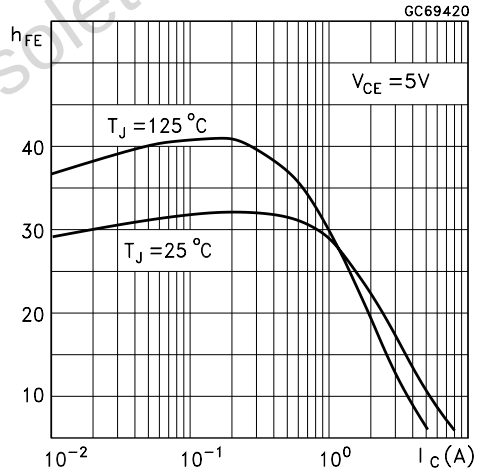
Derating Curve



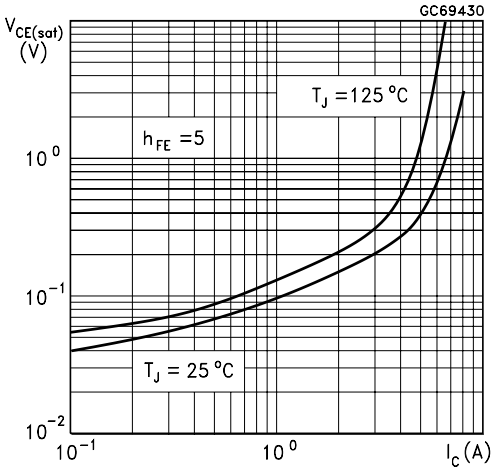
DC Current Gain



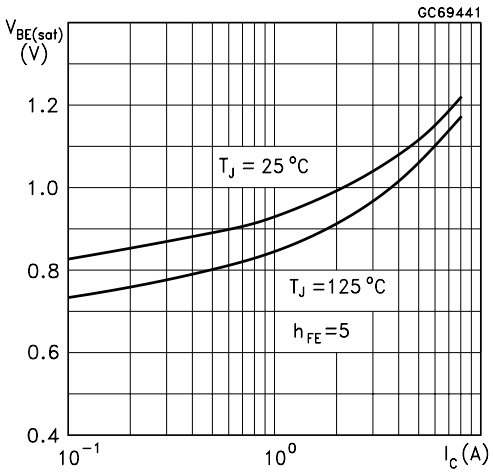
DC Current Gain



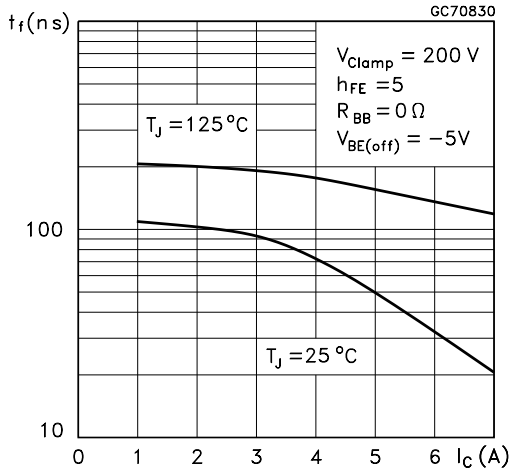
Collector Emitter Saturation Voltage



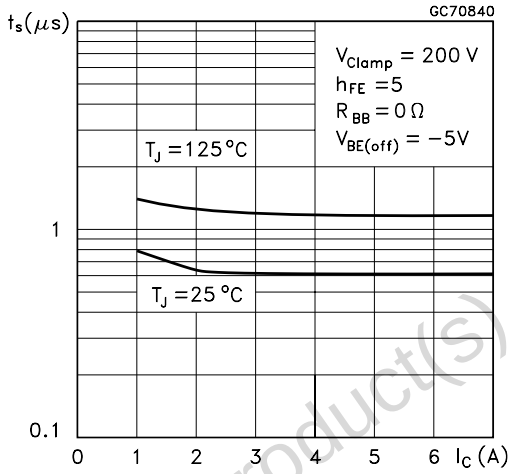
Base Emitter Saturation Voltage



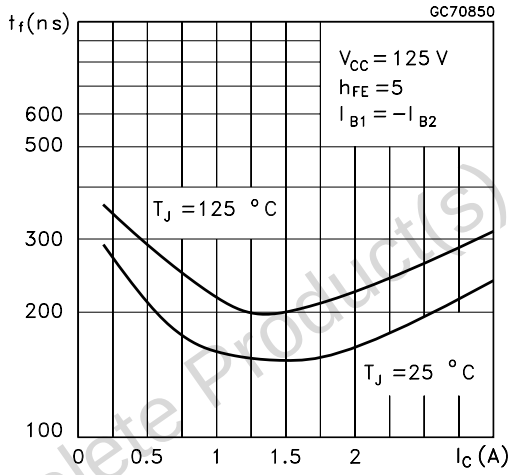
Inductive Fall Time



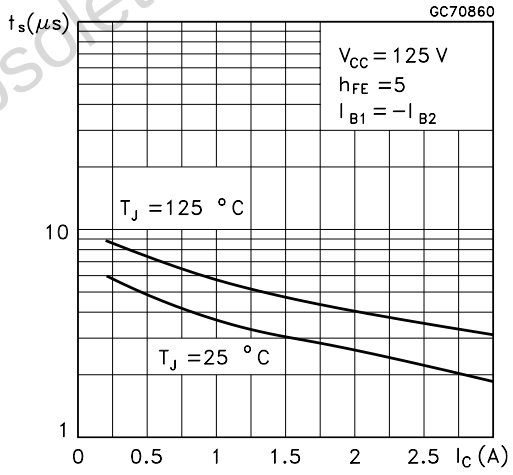
Inductive Storage Time



Resistive Load Fall Time



Resistive Load Storage Time



Reverse Biased SOA

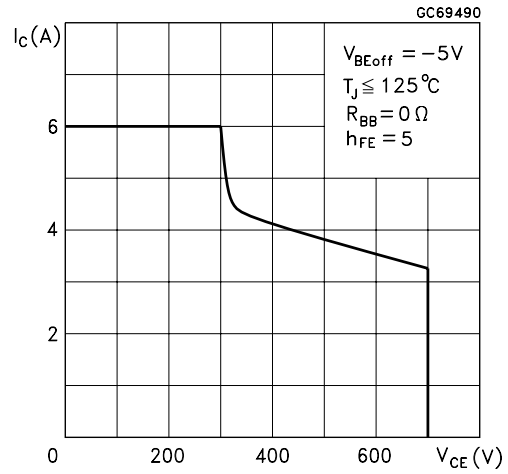


Figure 1: Inductive Load Switching Test Circuit.

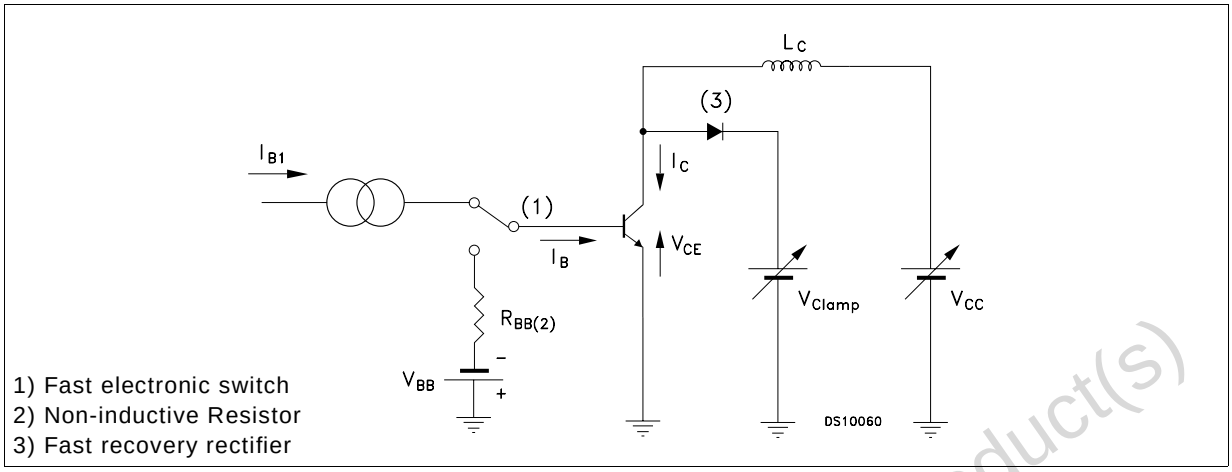
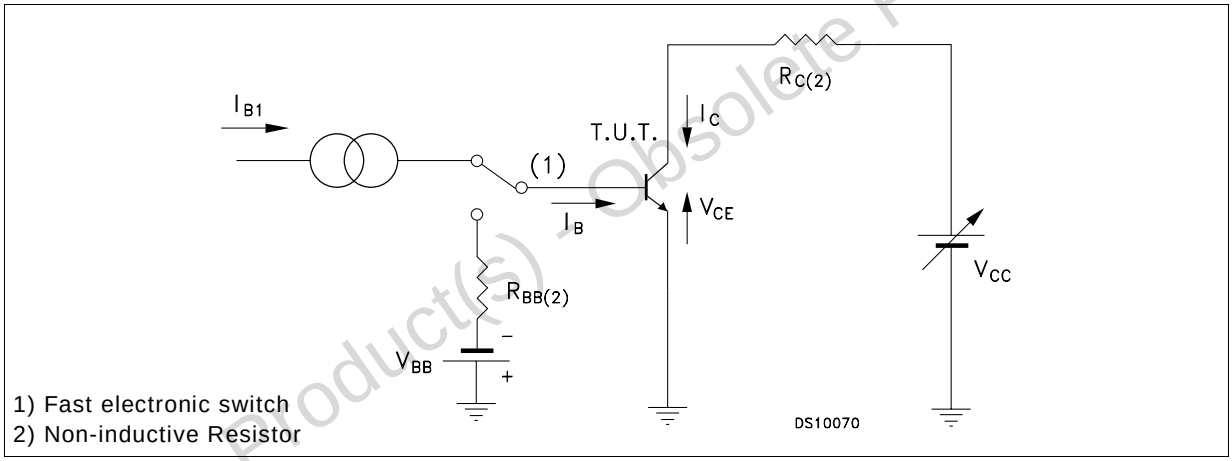


Figure 2: Resistive Load Switching Test Circuit.



SOT-82 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	7.4		7.8	0.291		0.307
B	10.5		10.8	0.413		0.444
b	0.7		0.9	0.028		0.035
b1	0.49		0.75	0.019		0.030
C	2.4		2.7	0.04		0.106
c1	1.0		1.3	0.039		0.05
D	15.4		16	0.606		0.629
e		2.2			0.087	
e3	4.15		4.65	0.163		0.183
F		3.8			0.150	
H			2.54		0.100	
H2		2.15			0.084