

THERMAL DATA

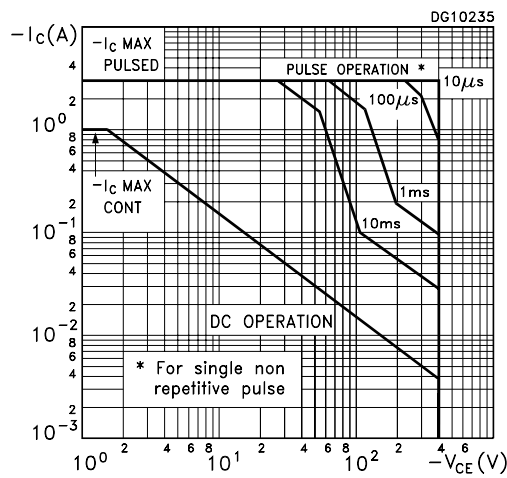
R _{thj-case}	Thermal Resistance Junction-Case	Max	83.3	°C/W
R _{thj-Amb}	Thermal Resistance Junction-Ambient	Max	200	°C/W

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

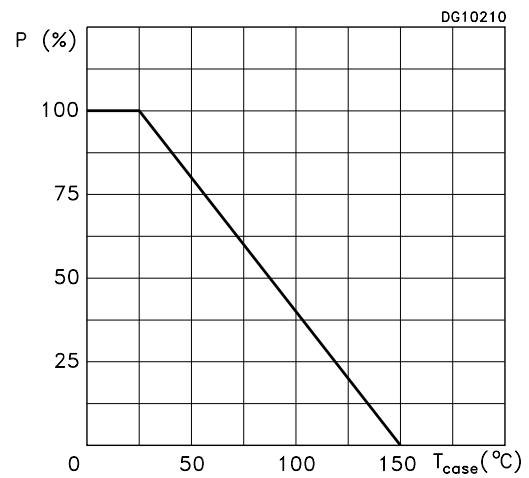
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CES}	Collector Cut-off Current (V _{BE} = 0)	V _{CE} = -500V V _{CE} = -500V T _j = 125°C			-1 -5	mA mA
V _{(BR)EBO}	Emitter Base Breakdown Voltage (I _C = 0)	I _E = -10 mA	-5		-10	V
V _{CEO(sus)*}	Collector-Emitter Sustaining Voltage (I _B = 0)	I _C = -10 mA L = 25 mH	-400			V
V _{CE(sat)*}	Collector-Emitter Saturation Voltage	I _C = -0.5 A I _C = -0.35 A I _B = -0.1 A I _B = -50 mA			-0.5 -0.5	V V
V _{BE(sat)*}	Base-Emitter Saturation Voltage	I _C = -0.5 A I _B = -0.1 A			-1	V
h _{FE*}	DC Current Gain	I _C = -10 mA I _C = -0.35 A I _C = -1 A V _{CE} = -5 V V _{CE} = -5 V V _{CE} = -5 V	10 16 4	25	32	
t _r t _s t _f	RESISTIVE LOAD Rise Time Storage Time Fall Time	I _C = -0.35 A I _{B1} = -70 mA T _p ≥ 25 μs V _{CC} = 125 V I _{B2} = 70 mA (see Figure 2)	1.5	90 2.2 0.1	2.9	ns μs μs
t _s t _f	INDUCTIVE LOAD Storage Time Fall Time	I _C = -0.5 A V _{BE(off)} = 5 V V _{clamp} = 300 V I _{B1} = -0.1 A L = 10 mH (see Figure 1)		400 40		ns ns
E _{sb}	Avalanche Energy	L = 4 mH I _{BR} ≤ 2.5 A C = 1.8 nF 25°C < T _C < 125°C	12			mJ

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

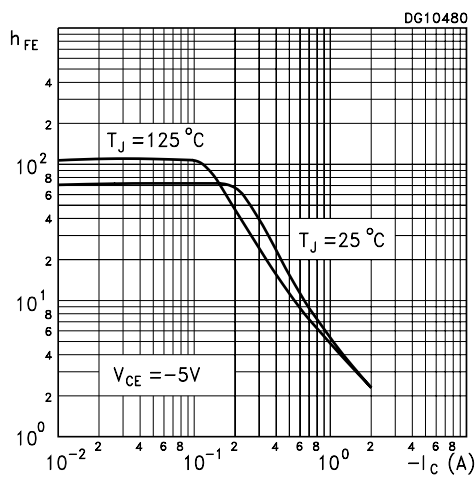
Safe Operating Area



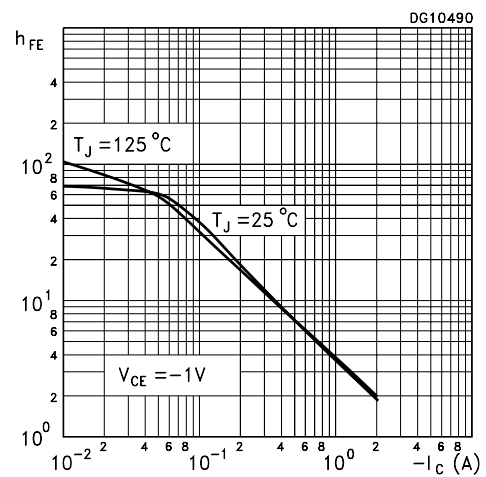
Derating Curve



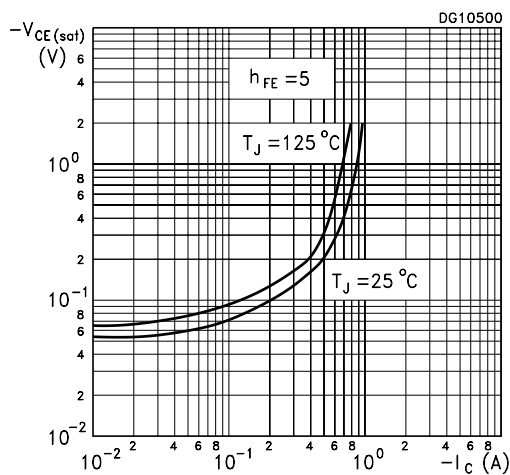
DC Current Gain



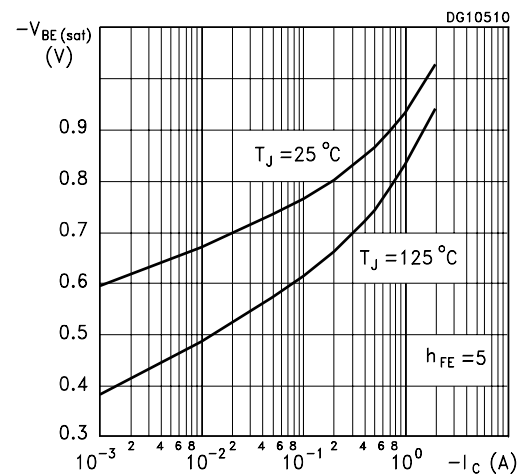
DC Current Gain



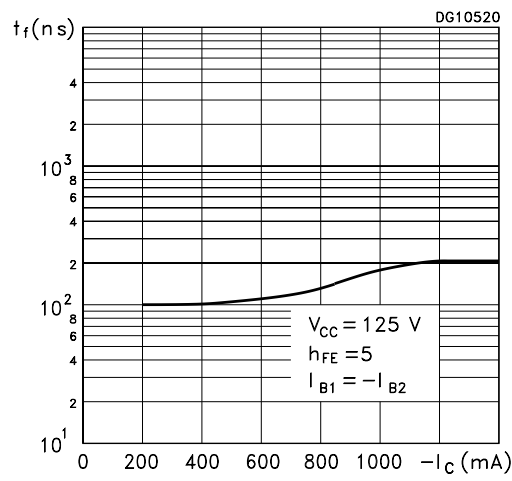
Collector Emitter Saturation Voltage



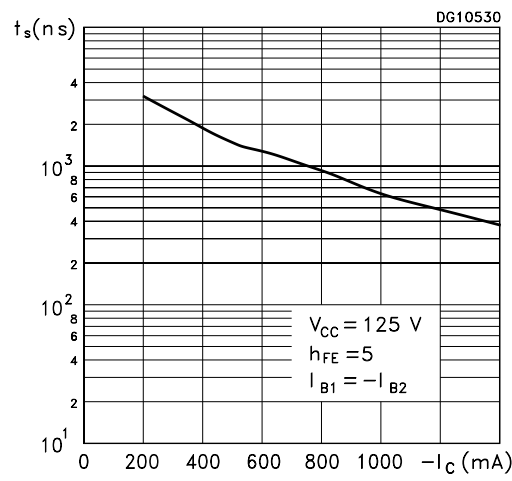
Base Emitter Saturation Voltage



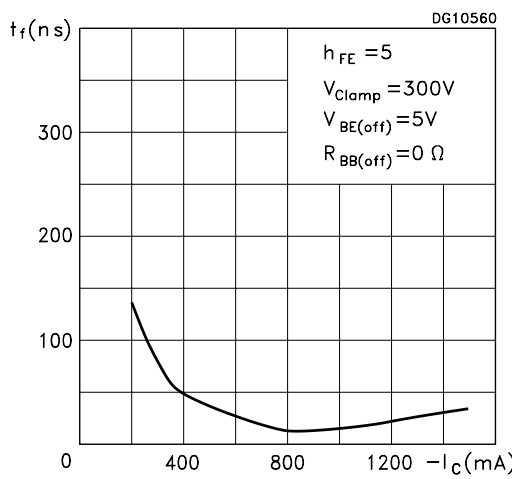
Resistive Load Fall Time



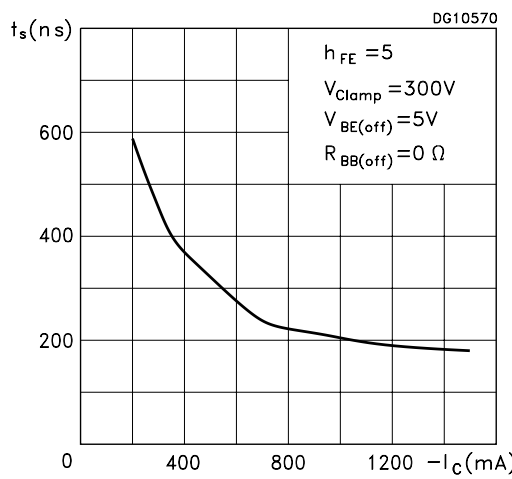
Resistive Load Storage Time



Inductive Load Fall Time



Inductive Load Storage Time



Reverse Biased SOA

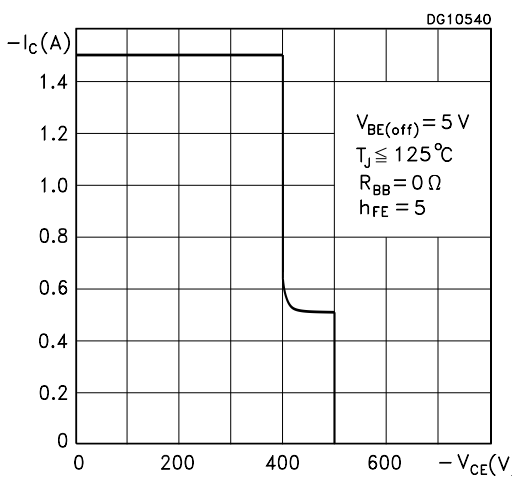
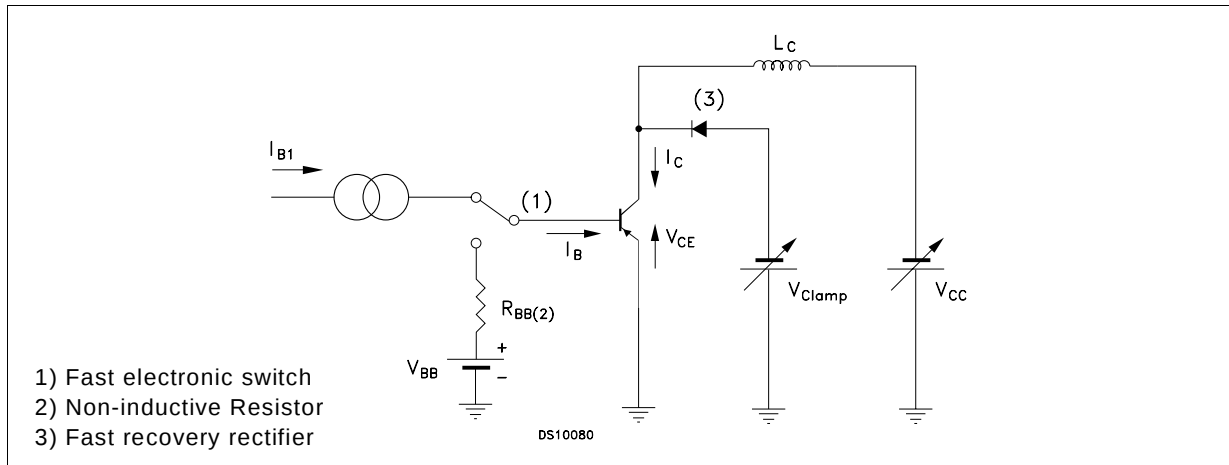
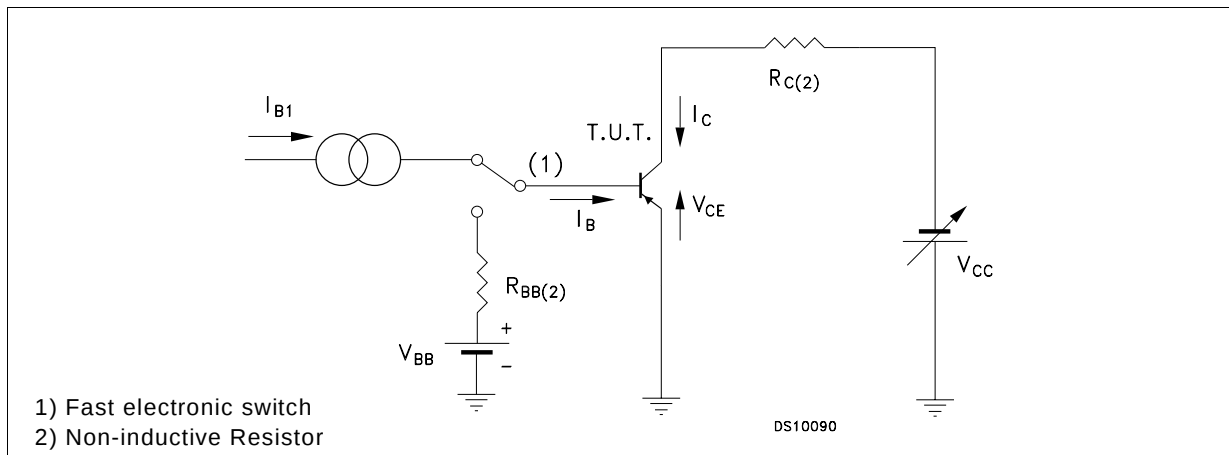
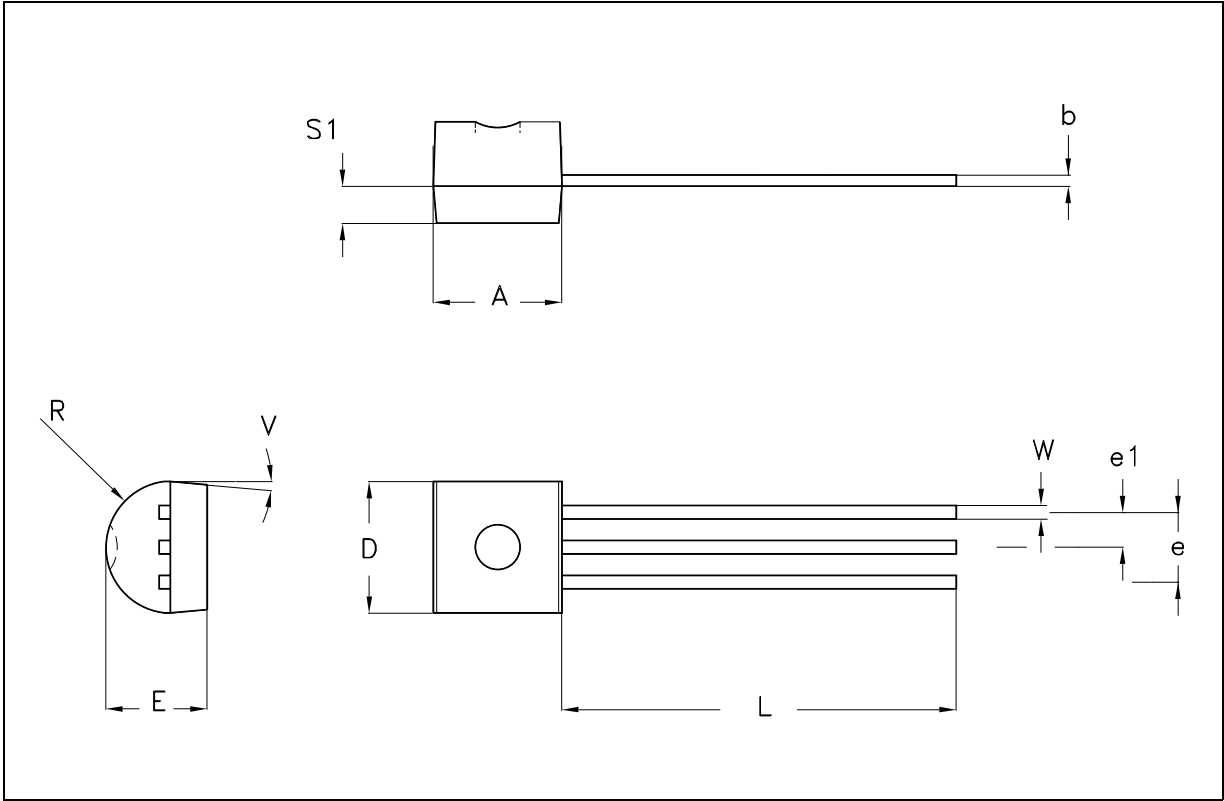


Figure 1: Inductive Load Switching Test Circuit.**Figure 2:** Resistive Load Switching Test Circuit.

TO-92 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	4.32		4.95	0.170		0.195
b	0.36		0.51	0.014		0.020
D	4.45		4.95	0.175		0.194
E	3.30		3.94	0.130		0.155
e	2.41		2.67	0.095		0.105
e1	1.14		1.40	0.045		0.055
L	12.70		15.49	0.500		0.609
R	2.16		2.41	0.085		0.094
S1	1.14		1.52	0.045		0.059
W	0.41		0.56	0.016		0.022
V	4 degree		6 degree	4 degree		6 degree



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