Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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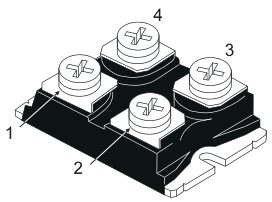
BUV98AV

NPN TRANSISTOR POWER MODULE

- HIGH CURRENT POWER BIPOLAR MODULE
- VERY LOW R_{th} JUNCTION CASE
- SPECIFIED ACCIDENTAL OVERLOAD AREAS
- FULLY INSULATED PACKAGE (U.L. COMPLIANT) FOR EASY MOUNTING
- LOW INTERNAL PARASITIC INDUCTANCE

INDUSTRIAL APPLICATIONS

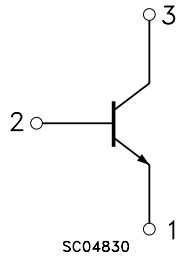
- MOTOR CONTROL
- SMPS & UPS
- WELDING EQUIPMENT



Pin 4 not connected

ISOTOP

INTERNAL SCHEMATIC DIAGRAM



SC04830

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CEV}	Collector-Emitter Voltage (V_{BE} = -5 V)	1000	V
$V_{CEO(sus)}$	Collector-Emitter Voltage (I_B = 0)	450	V
V_{EBO}	Emitter-Base Voltage (I_C = 0)	7	V
I_C	Collector Current	30	A
I_{CM}	Collector Peak Current (t_p < 10 ms)	60	A
I_B	Base Current	8	A
I_{BM}	Base Peak Current (t_p < 10 ms)	16	A
P_{tot}	Total Dissipation at T_c = 25 °C	150	W
V_{isol}	Insulation Withstand Voltage (RMS) from All Four Terminals to External Heatsink	2500	V
T_{stg}	Storage Temperature	-55 to 150	°C
T_j	Max. Operating Junction Temperature	150	°C

THERMAL DATA

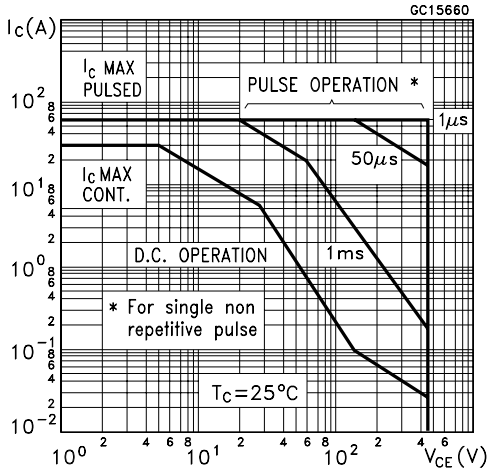
$R_{thj\text{-}case}$	Thermal Resistance Junction-case Max	0.83	°C/W
$R_{thc\text{-}h}$	Thermal Resistance Case-heatsink With Conductive Grease Applied Max	0.05	°C/W

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

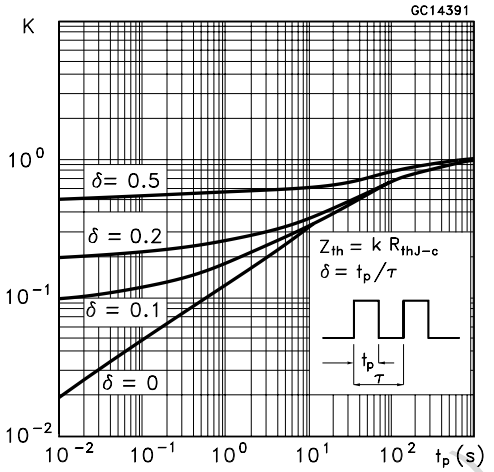
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CER}	Collector Cut-off Current (R_{BE} = 5 Ω)	V_{CE} = V_{CEV} V_{CE} = V_{CEV} T_j = 100 °C			1 8	mA mA
I_{CEV}	Collector Cut-off Current (V_{BE} = -5V)	V_{CE} = V_{CEV} V_{CE} = V_{CEV} T_j = 100 °C			0.4 4	mA mA
I_{EBO}	Emitter Cut-off Current (I_C = 0)	V_{EB} = 5 V			2	mA
$V_{CEO(sus)}$*	Collector-Emitter Sustaining Voltage (I_B = 0)	I_C = 0.2 A L = 25 mH V_{clamp} = 450 V	450			V
h_{FE}*	DC Current Gain	I_C = 24 A V_{CE} = 5 V		9		
$V_{CE(sat)}$*	Collector-Emitter Saturation Voltage	I_C = 16 A I_B = 3.2 A I_C = 24 A I_B = 5 A			1.5 5	V V
$V_{BE(sat)}$*	Base-Emitter Saturation Voltage	I_C = 16 A I_B = 3.2 A			1.6	V
di_C/dt	Rate of Rise of On-state Collector	V_{CC} = 300 V R_C = 0 t_p = 3 µs I_{B1} = 6 A T_j = 100 °C	100			A/µs
V_{CE}(3 µs)	Collector-Emitter Dynamic Voltage	V_{CC} = 300 V R_C = 15 Ω I_{B1} = 6 A T_j = 100 °C			8	V
V_{CE}(5 µs)	Collector-Emitter Dynamic Voltage	V_{CC} = 300 V R_C = 15 Ω I_{B1} = 6 A T_j = 100 °C			4	V
t_s t_f	Storage Time Fall Time	I_C = 16 A V_{CC} = 50 V V_{BB} = -5 V L_B = 1.5 µH V_{clamp} = 300 V I_{B1} = 3.2 A L = 750 µH T_j = 100 °C			5 0.4	µs µs
V_{CEW}	Maximum Collector Emitter Voltage Without Snubber	I_{CWoff} = 30 A I_{B1} = 6 A V_{BB} = -5 V V_{CC} = 50 V L = 750 µH L_B = 15 µH T_j = 125 °C	350			V

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

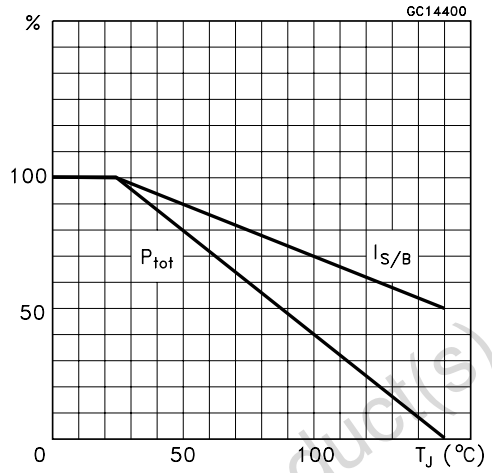
Safe Operating Area



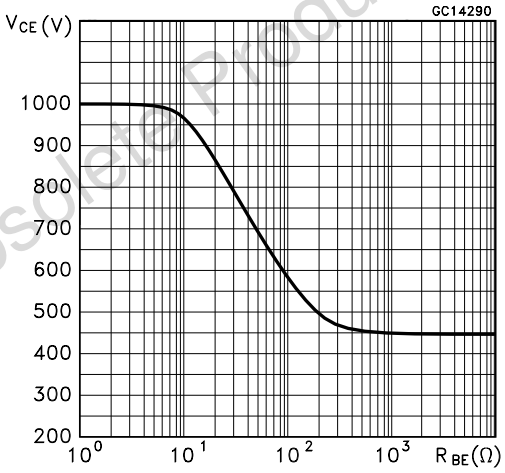
Thermal Impedance



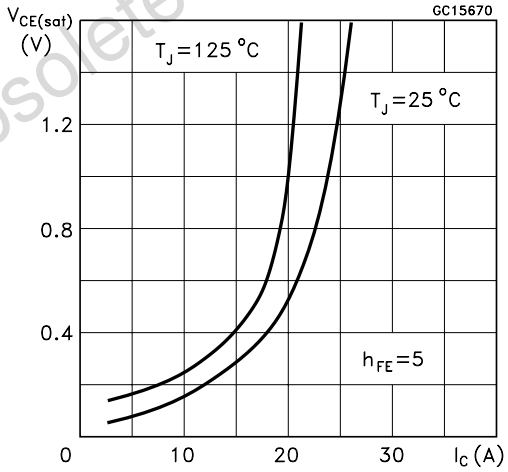
Derating Curve



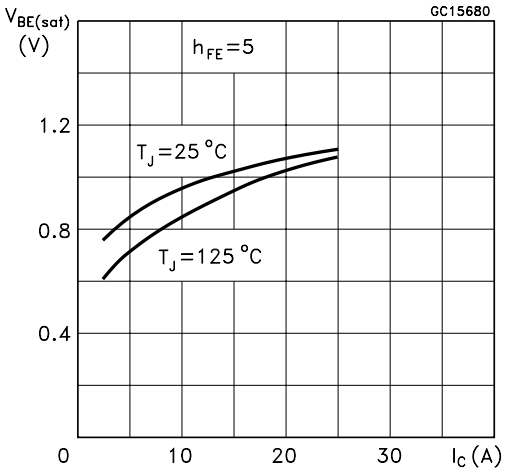
Collector-Emitter Voltage Versus Base-Emitter Resistance



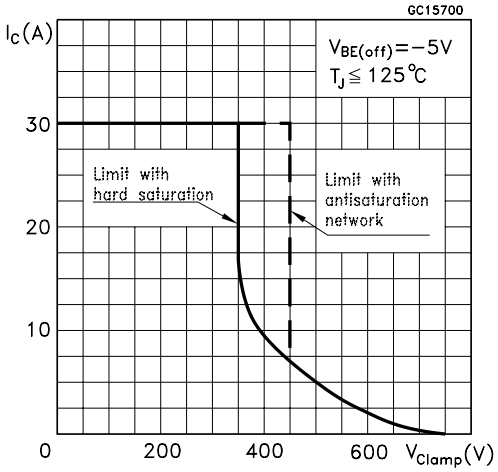
Collector- Emitter Saturation Voltage



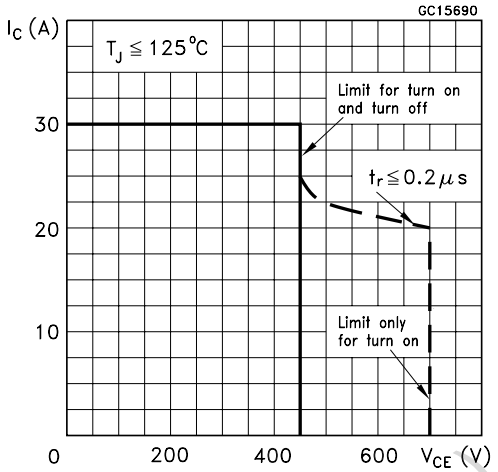
Base-Emitter Saturation Voltage



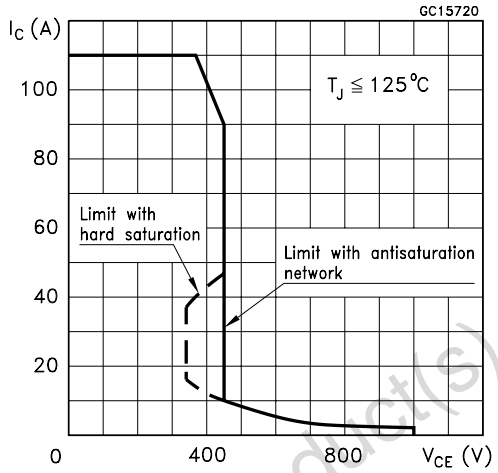
Reverse Biased SOA



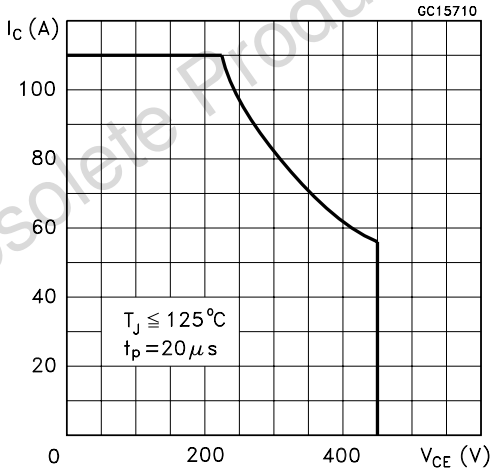
Foward Biased SOA



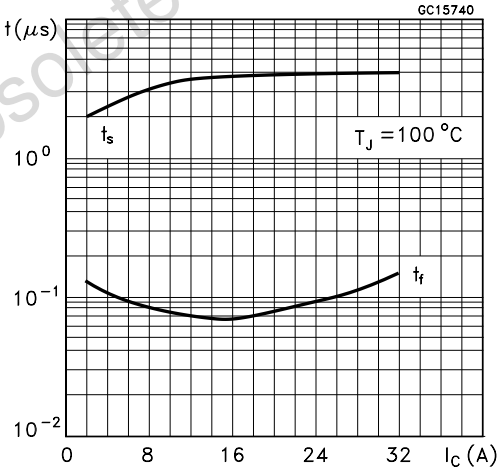
Reverse Biased AOA



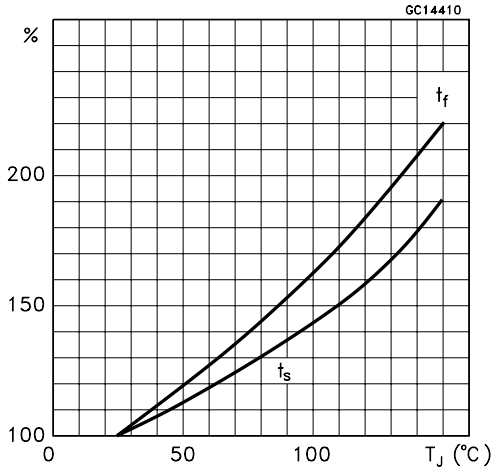
Forward Biased AOA



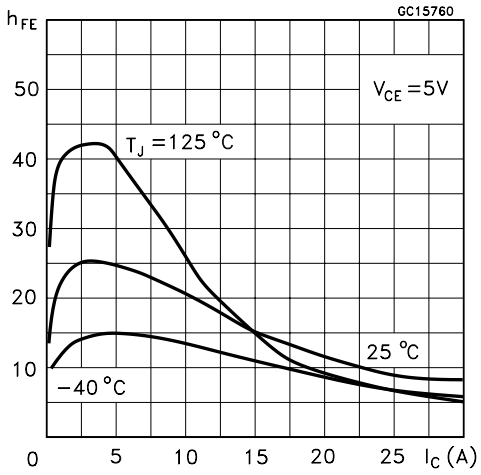
Switching Times Inductive Load



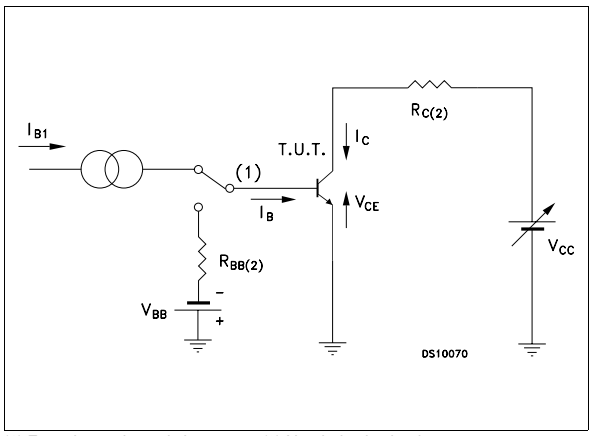
Switching Times Inductive Load Versus Temperature



Dc Current Gain

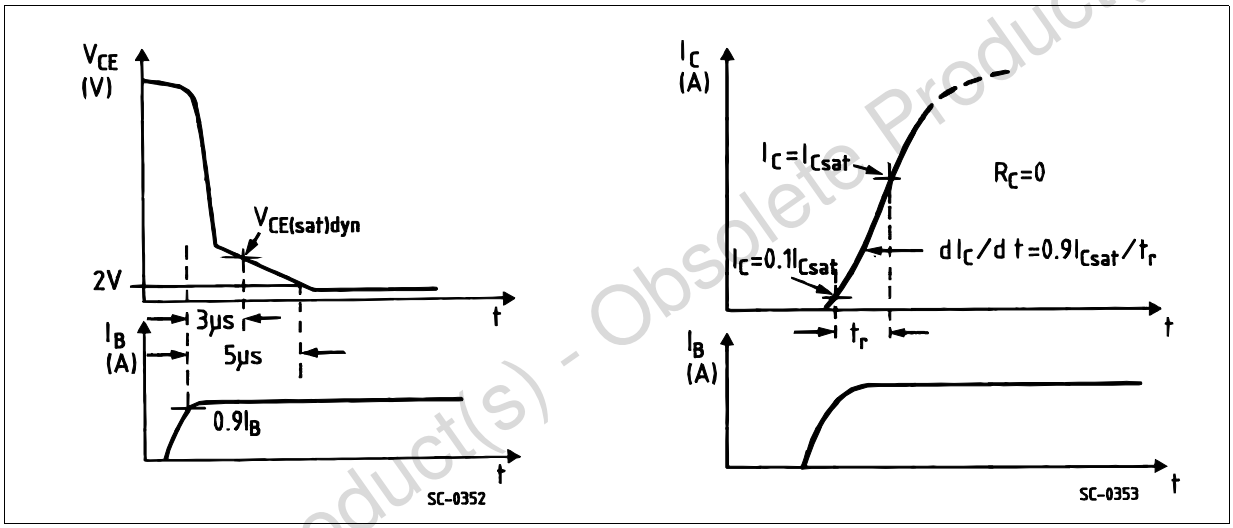


Turn-on Switching Test Circuit

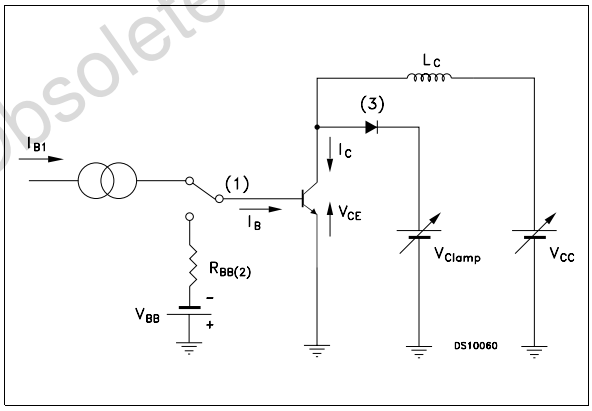


(1) Fast electronics switch (2) Non-inductive load

Turn-on Switching Waveforms

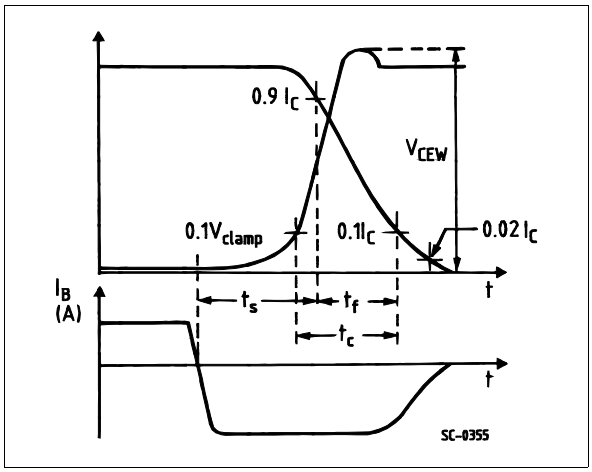


Turn-off Switching Test Circuit



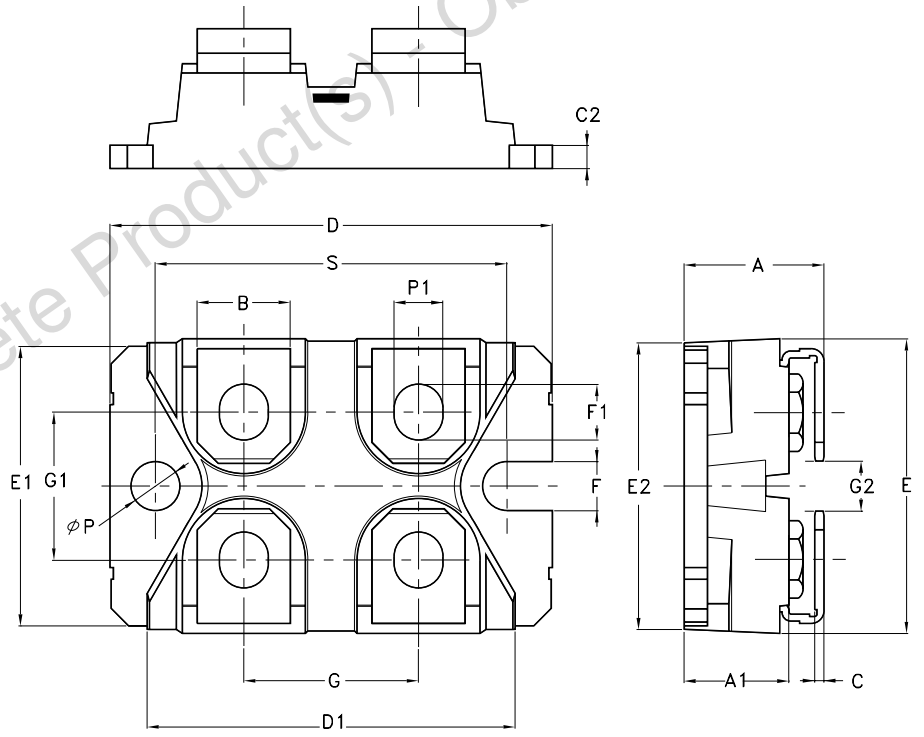
(1) Fast electronic switch (2) Non-inductive load
(3) Fast recovery rectifier

Turn-off Switching Waveforms



ISOTOP MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	11.8		12.2	0.465		0.480
A1	8.9		9.1	0.350		0.358
B	7.8		8.2	0.307		0.322
C	0.75		0.85	0.029		0.033
C2	1.95		2.05	0.076		0.080
D	37.8		38.2	1.488		1.503
D1	31.5		31.7	1.240		1.248
E	25.15		25.5	0.990		1.003
E1	23.85		24.15	0.938		0.950
E2		24.8			0.976	
G	14.9		15.1	0.586		0.594
G1	12.6		12.8	0.496		0.503
G2	3.5		4.3	0.137		1.169
F	4.1		4.3	0.161		0.169
F1	4.6		5	0.181		0.196
P	4		4.3	0.157		0.169
P1	4		4.4	0.157		0.173
S	30.1		30.3	1.185		1.193



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