

HIGH VOLTAGE FAST-SWITCHING NPN POWER TRANSISTOR

- SGS-THOMSON PREFERRED SALESTYPE
- HIGH VOLTAGE CAPABILITY
- U.L. RECOGNISED ISOWATT218 PACKAGE (U.L. FILE # E81734 (N))
- NPN TRANSISTOR WITH INTEGRATED FREEWHEELING DIODE.

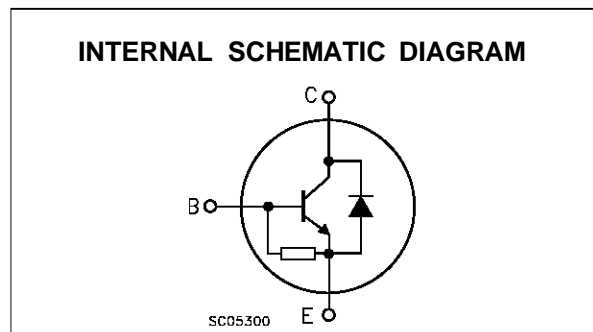
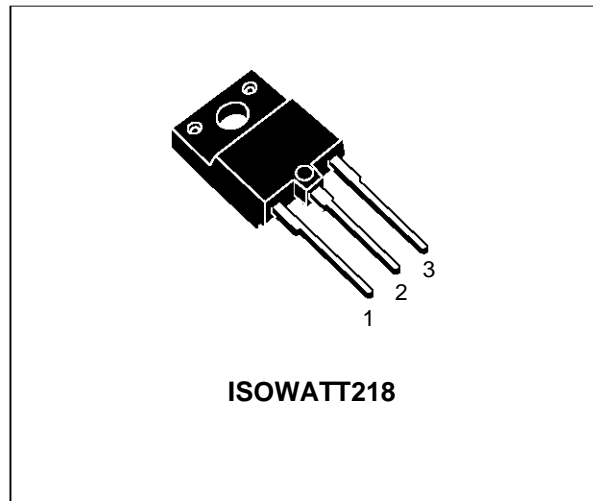
APPLICATIONS

- HORIZONTAL DEFLECTION FOR COLOUR TV

DESCRIPTION

This device is manufactured using Multi-epitaxial Mesa technology for cost-effective high performance and uses a Hollow Emitter structure to enhance switching speeds.

The THD series is designed for use in horizontal deflection circuits in televisions and monitors.



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage ($I_E = 0$)	1500	V
V_{CEO}	Collector-Emmitter Voltage ($I_B = 0$)	700	V
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)	10	V
I_C	Collector Current	7	A
I_{CM}	Collector Peak Current ($t_p < 5$ ms)	12	A
I_B	Base Current	4	A
I_{BM}	Base Peak Current ($t_p < 5$ ms)	7	A
P_{tot}	Total Dissipation at $T_c = 25$ °C	50	W
T_{stg}	Storage Temperature	-65 to 150	°C
T_j	Max. Operating Junction Temperature	150	°C

THD218DHI

THERMAL DATA

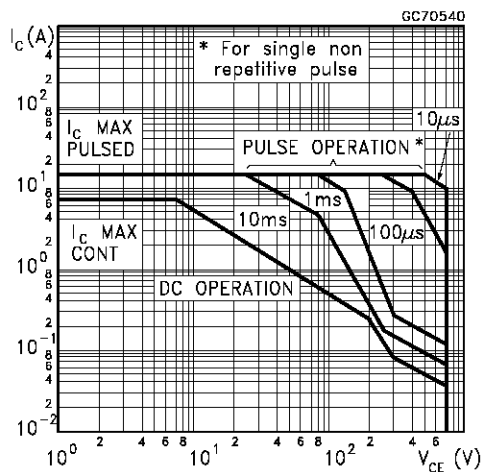
R _{thj-case}	Thermal Resistance Junction-case	Max	2.5	°C/W
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ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

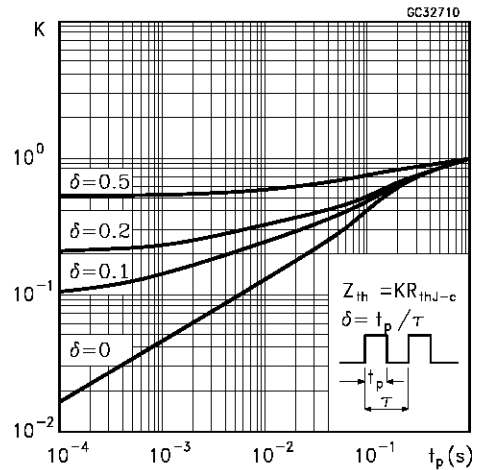
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CES}	Collector Cut-off Current (V _{BE} = 0)	V _{CE} = 1500 V V _{CE} = 1500 V T _j = 125 °C			0.2 2	mA mA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{EB} = 5 V			300	mA
V _{CE(sat)*}	Collector-Emitter Saturation Voltage	I _C = 4 A I _B = 1 A			1.5	V
V _{BE(sat)*}	Base-Emitter Saturation Voltage	I _C = 4 A I _B = 1 A			1.3	V
h _{FE*}	DC Current Gain	I _C = 4 A V _{CE} = 5 V I _C = 4 A V _{CE} = 5 V T _j = 100 °C	6 4		13	
t _s t _f	INDUCTIVE LOAD Storage Time Fall Time	I _C = 4 A f = 15625 Hz I _{B1} = 1 A I _{B2} = -2 A V _{ceflyback} = 1050 sin(π/5 10 ⁶) t V		4.7 0.48		μs μs
V _F	Diode Forward Voltage	I _F = 4 A			2.5	V

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

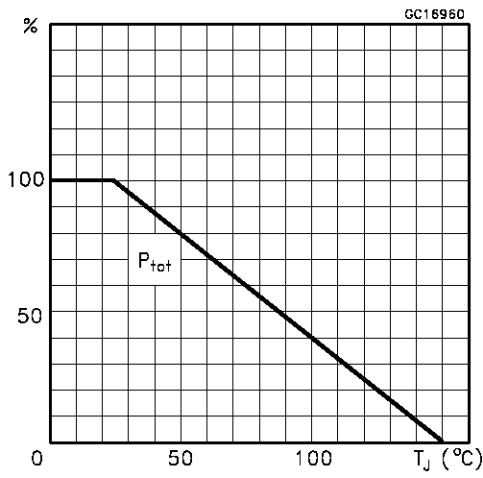
Safe Operating Area



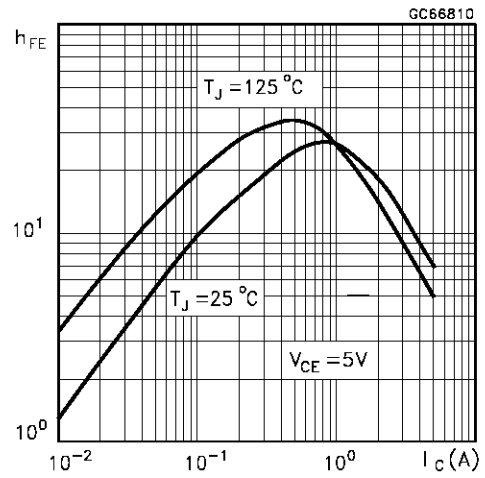
Thermal Impedance



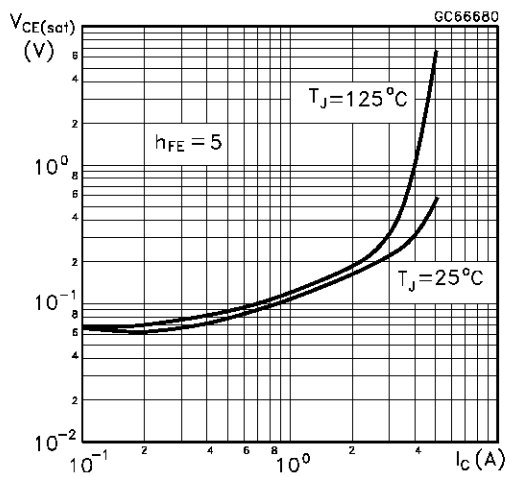
Derating Curve



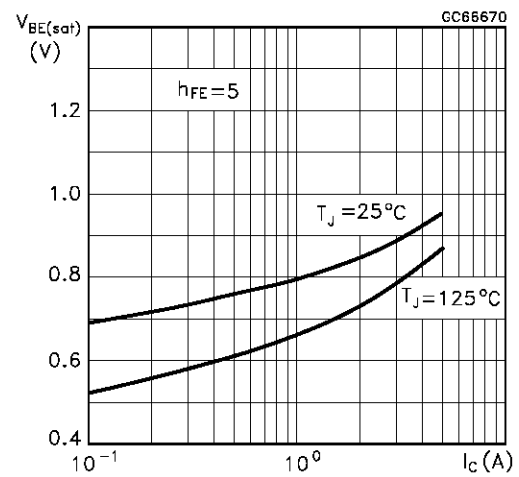
DC Current Gain



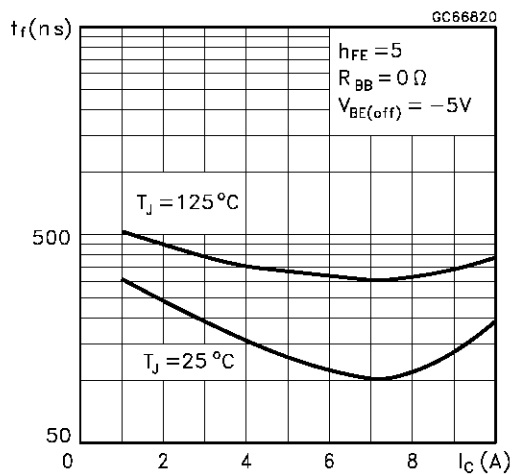
Collector Emitter Saturation Voltage



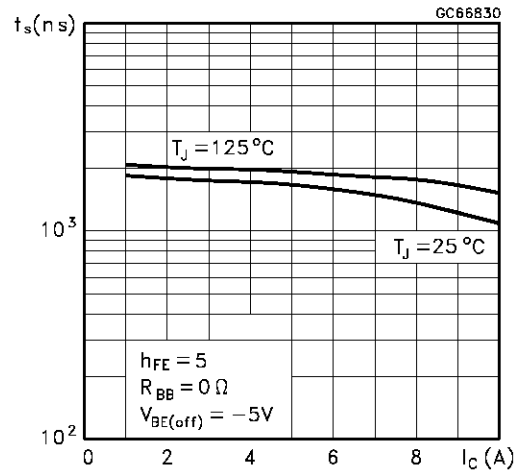
Base Emitter Saturation Voltage



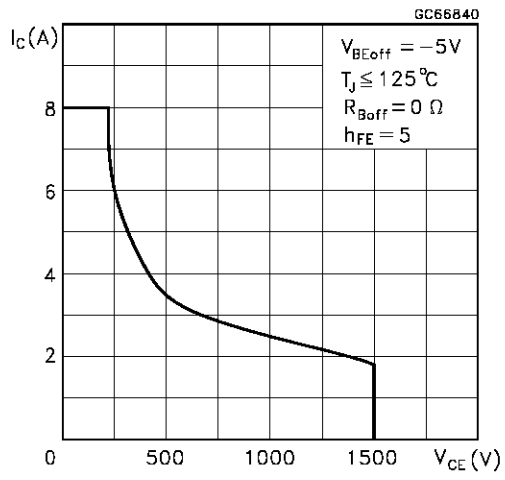
Inductive Fall Time



Inductive Storage Time

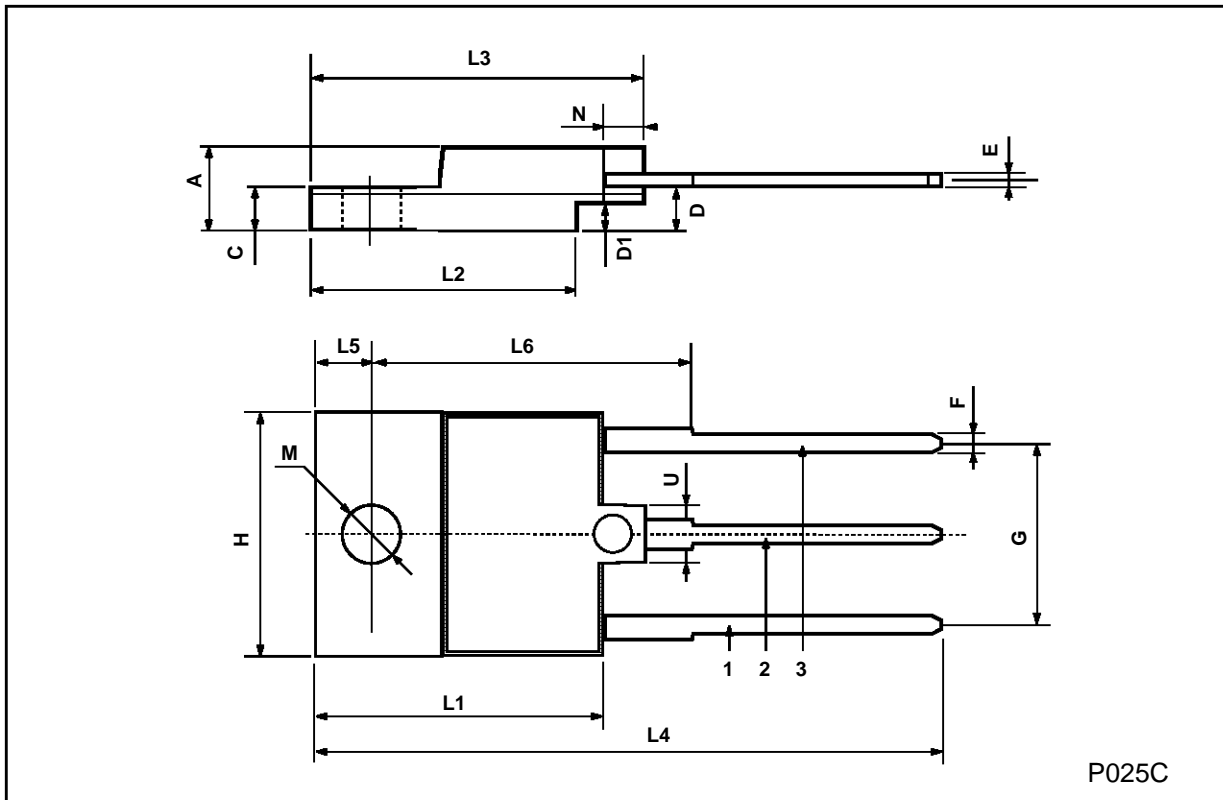


Reverse Biased SOA



ISOWATT218 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	5.35		5.65	0.210		0.222
C	3.3		3.8	0.130		0.149
D	2.9		3.1	0.114		0.122
D1	1.88		2.08	0.074		0.081
E	0.75		1	0.029		0.039
F	1.05		1.25	0.041		0.049
G	10.8		11.2	0.425		0.441
H	15.8		16.2	0.622		0.637
L1	20.8		21.2	0.818		0.834
L2	19.1		19.9	0.752		0.783
L3	22.8		23.6	0.897		0.929
L4	40.5		42.5	1.594		1.673
L5	4.85		5.25	0.190		0.206
L6	20.25		20.75	0.797		0.817
M	3.5		3.7	0.137		0.145
N	2.1		2.3	0.082		0.090
U		4.6			0.181	



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