

BDW 51
BDW 51A
BDW 51B
BDW 51C

THERMAL DATA

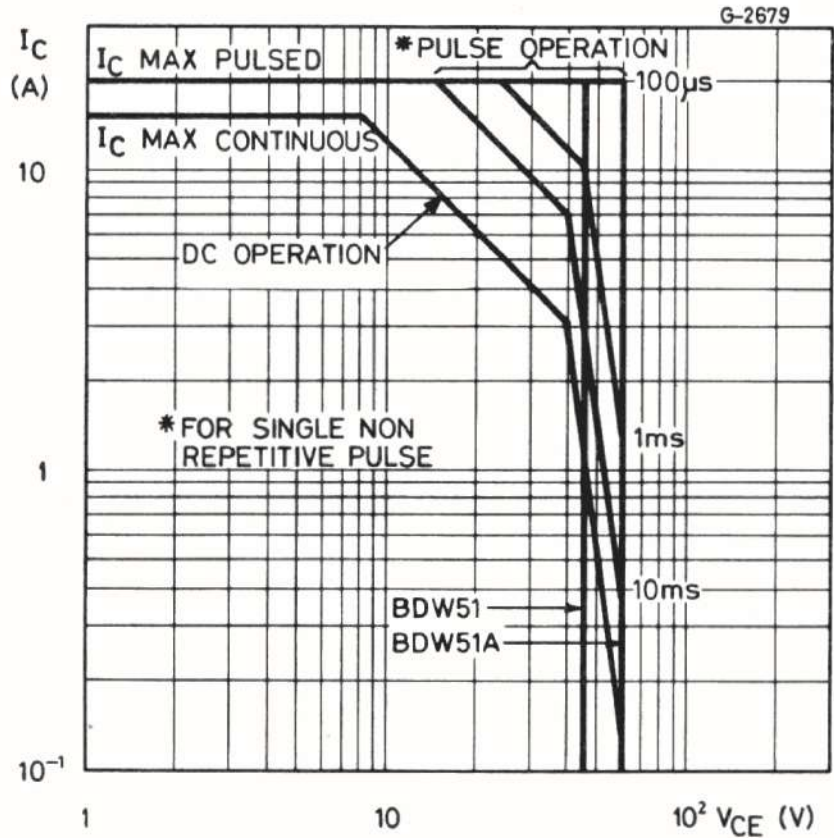
$R_{th\ j-case}$	Thermal resistance junction-case	max	1.4	°C/W
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ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

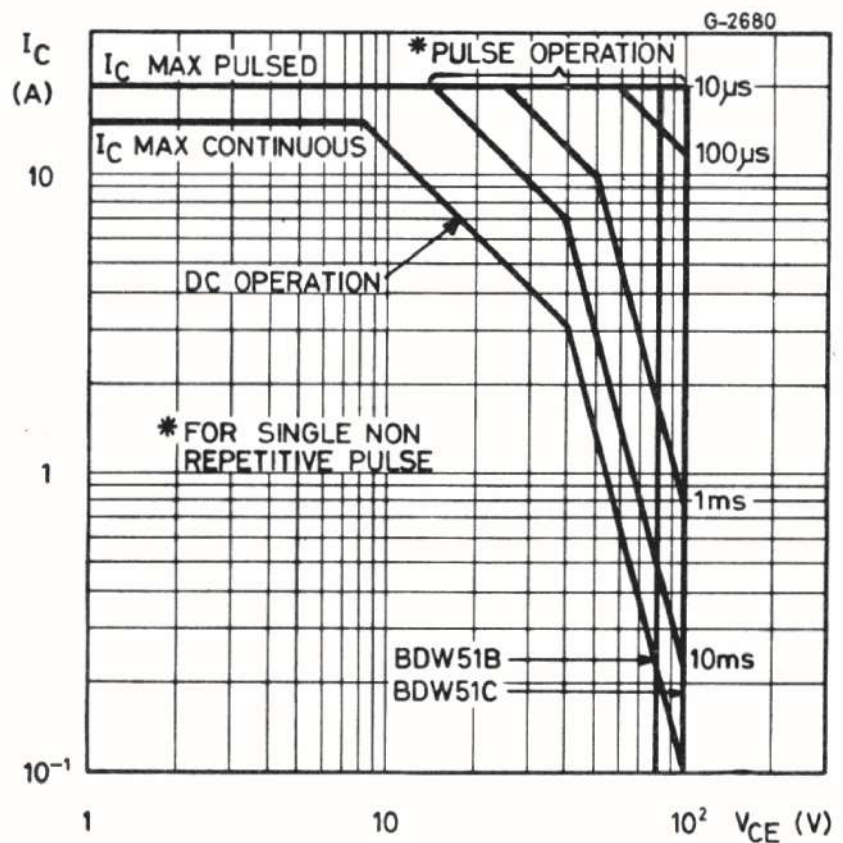
Parameter	Test conditions	Min.	Typ.	Max.	Unit
I_{CBO} Collector cutoff current ($I_E = 0$)	for BDW51 $V_{CB} = 45V$			500	μA
	for BDW51A $V_{CB} = 60V$			500	μA
	for BDW51B $V_{CB} = 80V$			500	μA
	for BDW51C $V_{CB} = 100V$			500	μA
	$T_{case} = 150^{\circ}C$				
	for BDW51 $V_{CB} = 45V$			5	mA
	for BDW51A $V_{CB} = 60V$			5	mA
	for BDW51B $V_{CB} = 80V$			5	mA
	for BDW51C $V_{CB} = 100V$			5	mA
I_{CEO} Collector cutoff current ($I_B = 0$)	for BDW51 $V_{CE} = 22V$			1	mA
	for BDW51A $V_{CE} = 30V$			1	mA
	for BDW51B $V_{CE} = 40V$			1	mA
	for BDW51C $V_{CE} = 50V$			1	mA
I_{EBO} Emitter cutoff current ($I_C = 0$)	$V_{EB} = 5V$			2	mA
$V_{CEO(sus)}^*$ Collector-emitter sustaining voltage ($I_B = 0$)	$I_C = 100mA$ for BDW51 for BDW51A for BDW51B for BDW51C	45			V
		60			V
		80			V
		100			V
$V_{CE(sat)}^*$ Collector-emitter saturation voltage	$I_C = 5A$ $I_B = 0.5A$			1	V
	$I_C = 10A$ $I_B = 2.5A$			3	V
$V_{BE(sat)}^*$ Base-emitter saturation voltage	$I_C = 10A$ $I_B = 2.5A$			2.5	V
V_{BE}^* Base-emitter voltage	$I_C = 5A$ $V_{CE} = 4V$			1.5	V
h_{FE}^* DC current gain	$I_C = 5A$ $V_{CE} = 4V$	20		150	—
	$I_C = 10A$ $V_{CE} = 4V$	5			—
f_T Transition frequency	$I_C = 0.5A$ $V_{CE} = 4V$	3			MHz

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

Safe operating areas
(for **BDW51** and **BDW51A**)

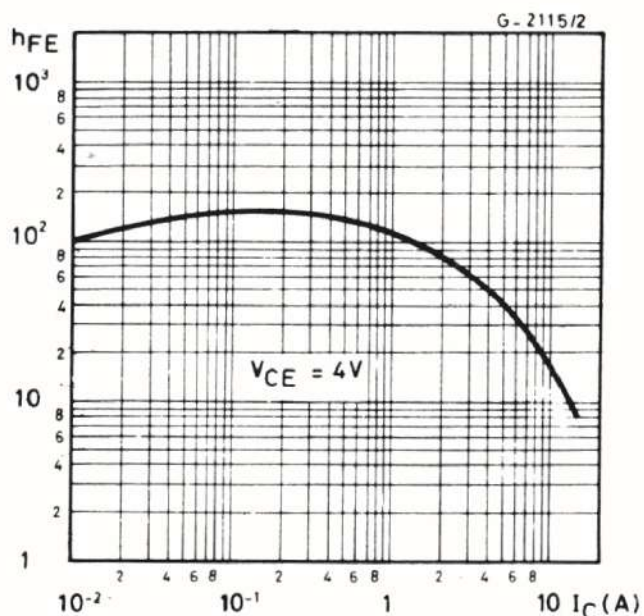


Safe operating areas
(for **BDW51B** and **BDW51C**)

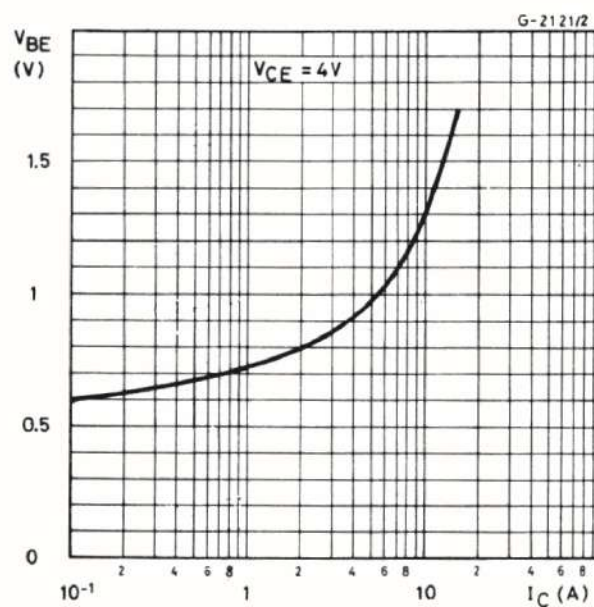


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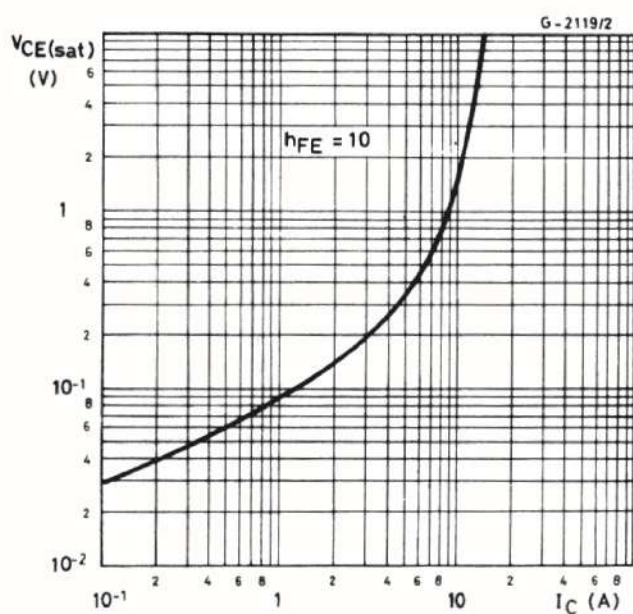
DC current gain



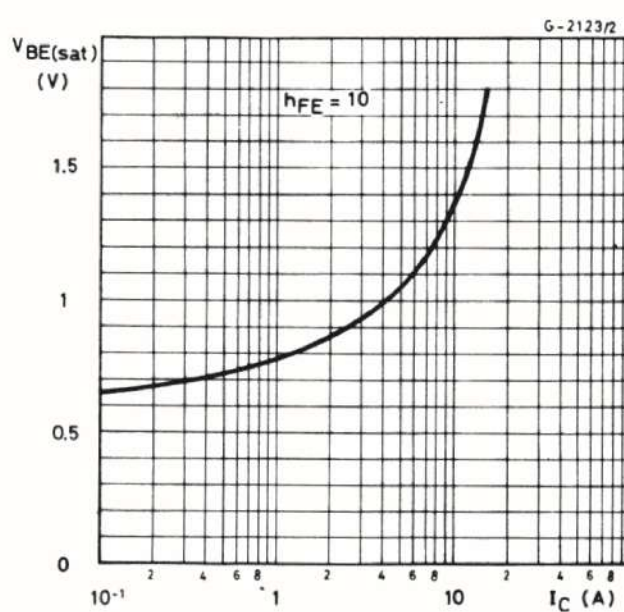
DC transconductance



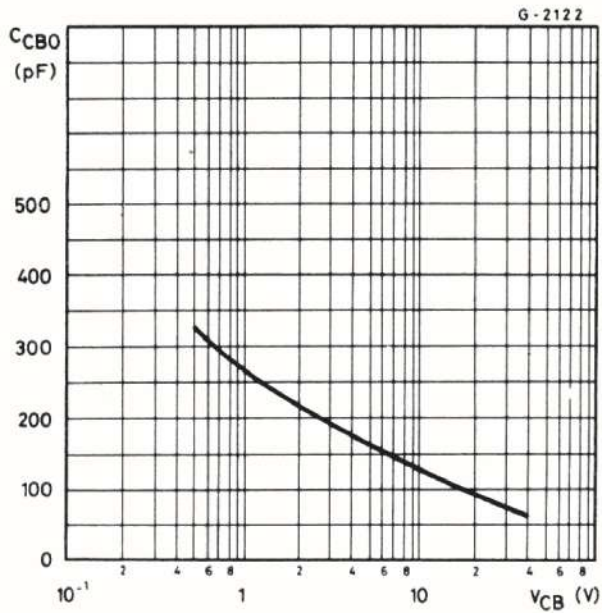
Collector-emitter saturation voltage



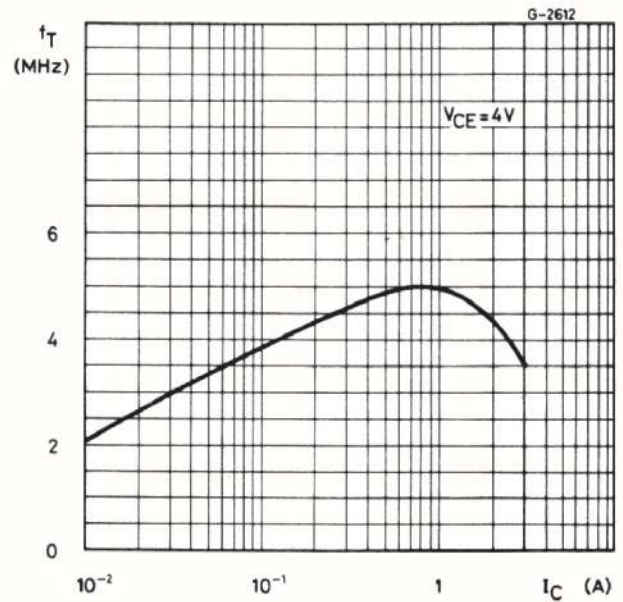
Base-emitter saturation voltage



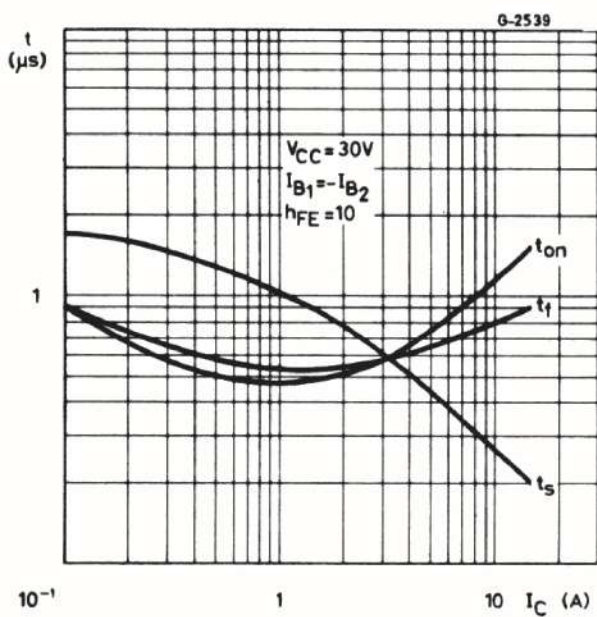
Collector-base capacitance



Transition frequency



Saturated switching characteristics



Power rating chart

