Electrical Characteristics, at $T_j = 25°C$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Static Characteristics					
Drain- source breakdown voltage	$V_{(BR)DSS}$				V
$V_{GS} = 0$ V, $I_D = 0.25$ mA, $T_j = 25$ °C		200	-	-	
Gate threshold voltage	$V_{GS(th)}$				
$V_{GS} = V_{DS}$, $I_D = 1$ mA		2.1	3	4	
Zero gate voltage drain current	I_{DSS}				µA
$V_{DS} = 200$ V, $V_{GS} = 0$ V, $T_j = 25$ °C		-	0.1	1	
$V_{DS} = 200$ V, $V_{GS} = 0$ V, $T_j = 125$ °C		-	10	100	
Gate-source leakage current	I_{GSS}				nA
$V_{GS} = 20$ V, $V_{DS} = 0$ V		-	10	100	
Drain-Source on-resistance	$R_{DS(on)}$				Ω
$V_{GS} = 10$ V, $I_D = 13.5$ A		-	0.1	0.13	

Electrical Characteristics, at T_j = 25˚C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Dynamic Characteristics					
Transconductance $V_{DS} \geq 2 * I_D * R_{DS(on)max}$, I_D = 13.5 A	g_{fs}	6	15	-	S
Input capacitance V_{GS} = 0 V, V_{DS} = 25 V, f = 1 MHz	C_{iss}	-	1400	1900	pF
Output capacitance V_{GS} = 0 V, V_{DS} = 25 V, f = 1 MHz	C_{oss}	-	280	400	
Reverse transfer capacitance V_{GS} = 0 V, V_{DS} = 25 V, f = 1 MHz	C_{rss}	-	130	200	
Turn-on delay time V_{DD} = 30 V, V_{GS} = 10 V, I_D = 3 A R_{GS} = 50 Ω	$t_{d(on)}$	-	30	45	ns
Rise time V_{DD} = 30 V, V_{GS} = 10 V, I_D = 3 A R_{GS} = 50 Ω	t_r	-	70	110	
Turn-off delay time V_{DD} = 30 V, V_{GS} = 10 V, I_D = 3 A R_{GS} = 50 Ω	$t_{d(off)}$	-	250	320	
Fall time V_{DD} = 30 V, V_{GS} = 10 V, I_D = 3 A R_{GS} = 50 Ω	t_f	-	90	120	

Electrical Characteristics, at T_j = 25°C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Reverse Diode					
Inverse diode continuous forward current T_C = 25 °C	I_S	-	-	21	A
Inverse diode direct current,pulsed T_C = 25 °C	I_{SM}	-	-	84	
Inverse diode forward voltage V_{GS} = 0 V, I_F = 42 A	V_{SD}	-	1.2	1.6	V
Reverse recovery time V_R = 100 V, I_F=I_S, di_F/dt = 100 A/µs	t_{rr}	-	180	-	ns
Reverse recovery charge V_R = 100 V, I_F=I_S, di_F/dt = 100 A/µs	Q_{rr}	-	1.2	-	µC

Power dissipation
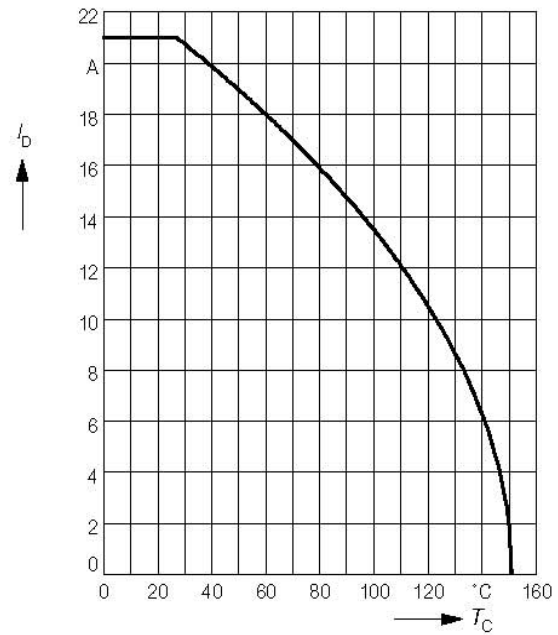
$P_{tot} = f(T_C)$
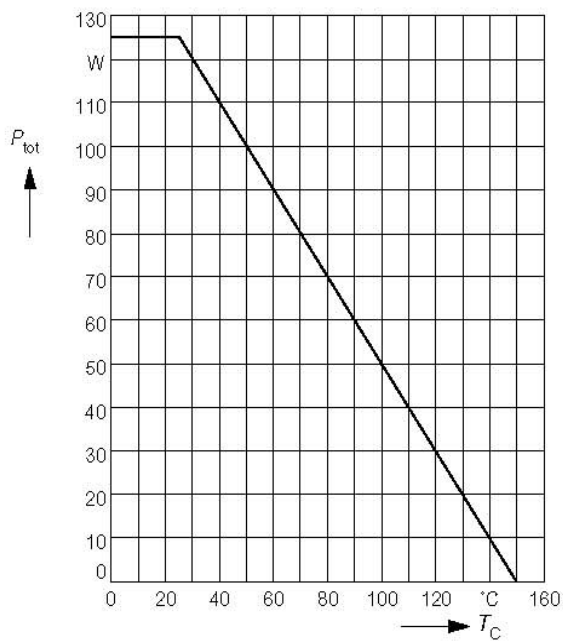
Drain current

$I_D = f(T_C)$
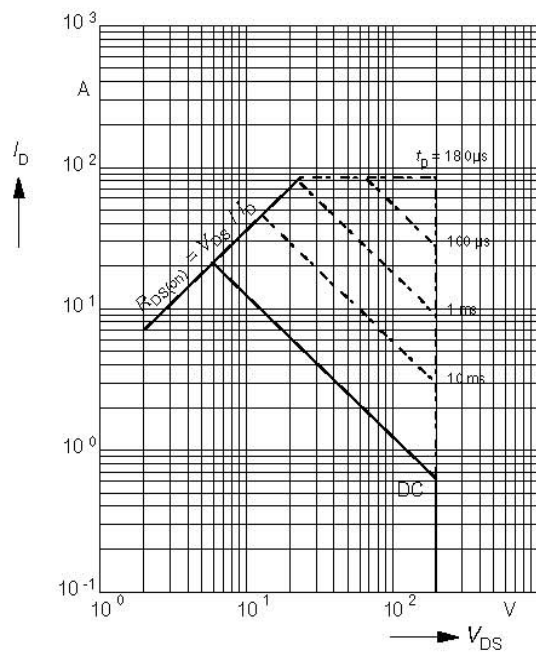
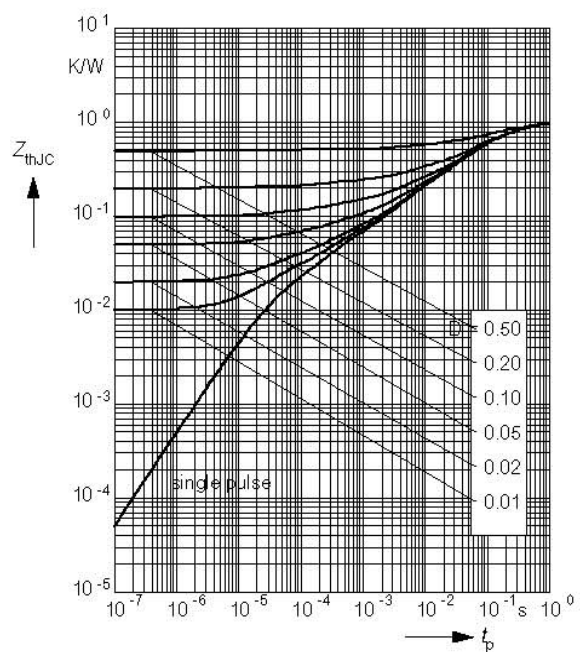parameter: $V_{GS} \geq 10$ V

Safe operating area

$I_D = f(V_{DS})$

parameter: $D = 0.01$, $T_C = 25°C$

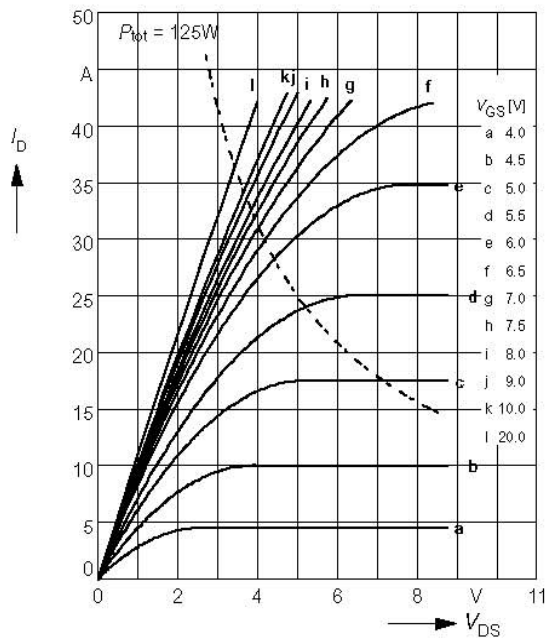**Transient thermal impedance**

$Z_{th\,JC} = f(t_p)$

parameter: $D = t_p / T$

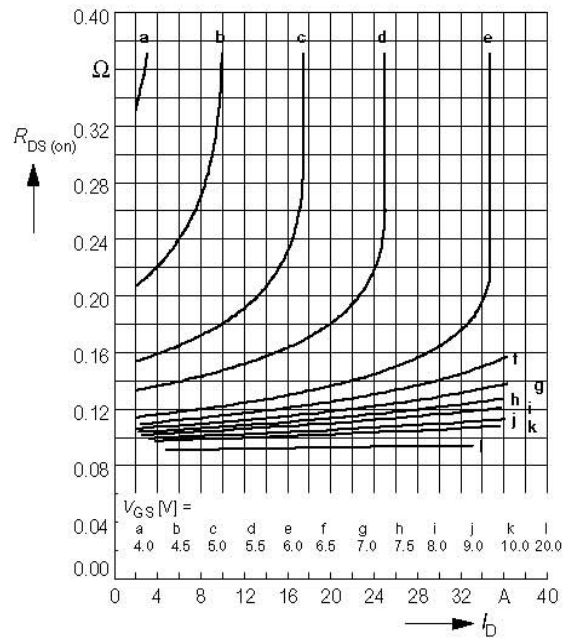**Typ. output characteristics**

$I_D = f(V_{DS})$

parameter: $t_p = 80\ \mu s$

Typ. drain-source on-resistance
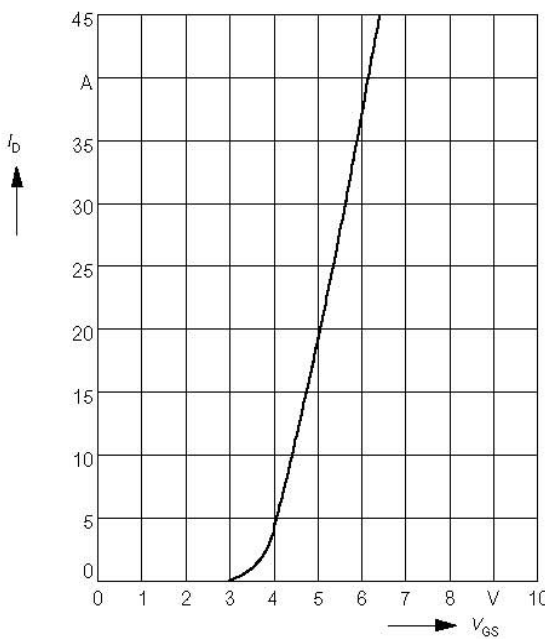
$R_{DS\,(on)} = f(I_D)$

parameter: V_{GS}

Typ. transfer characteristics $I_D = f(V_{GS})$
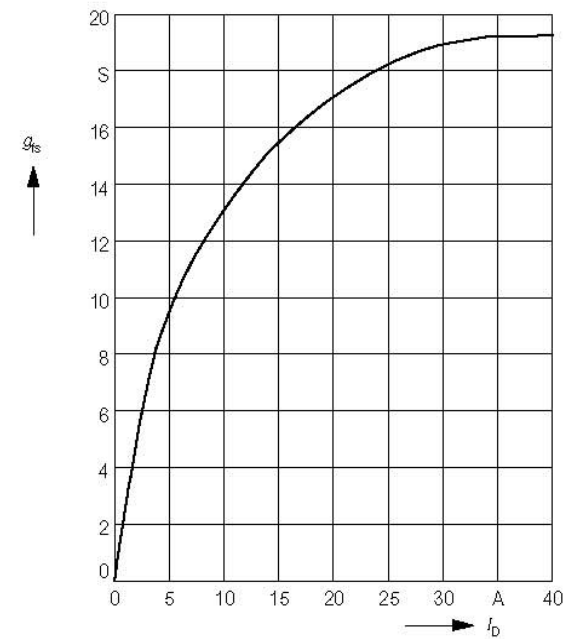
parameter: $t_p = 80\ \mu s$

$V_{DS} \geq 2 \times I_D \times R_{DS(on)max}$

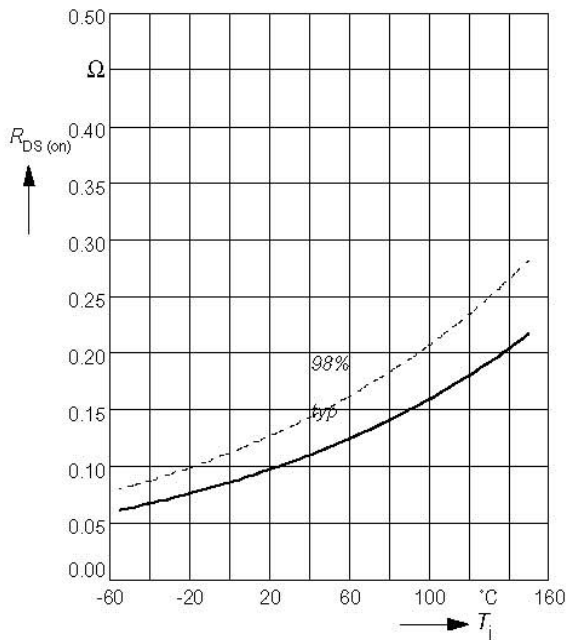**Typ. forward transconductance** $g_{fs} = f(I_D)$

parameter: $t_p = 80\ \mu s$,

$V_{DS} \geq 2 \times I_D \times R_{DS(on)max}$

Drain-source on-resistance
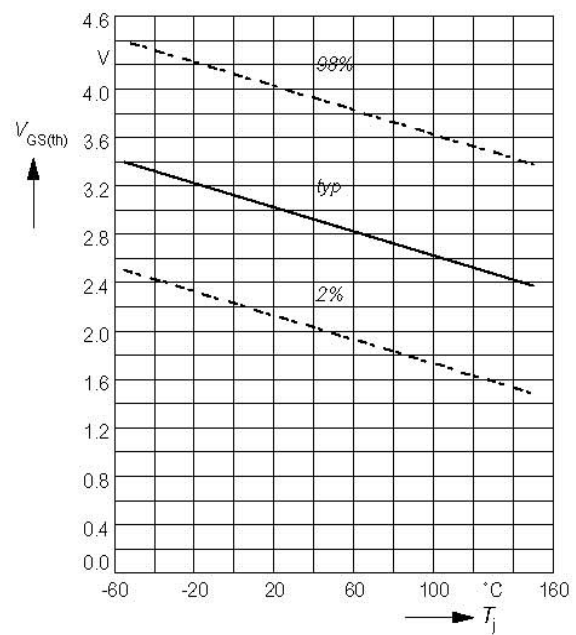
$R_{DS\,(on)} = f(T_j)$

parameter: $I_D = 13.5$ A, $V_{GS} = 10$ V

Gate threshold voltage

$V_{GS\,(th)} = f(T_j)$

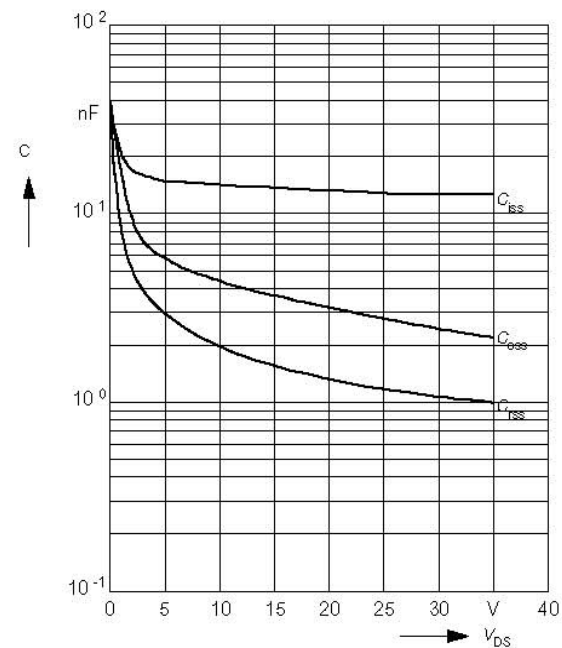parameter: $V_{GS} = V_{DS}$, $I_D = 1$ mA

Typ. capacitances

$C = f(V_{DS})$

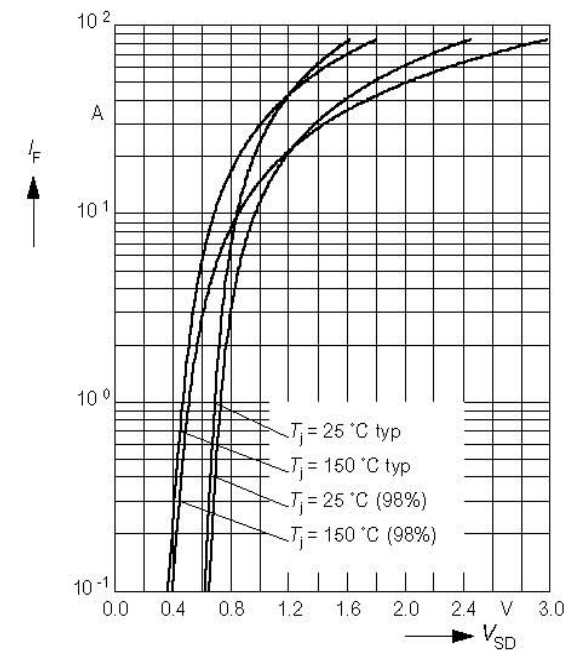parameter: $V_{GS} = 0$V, $f = 1$MHz
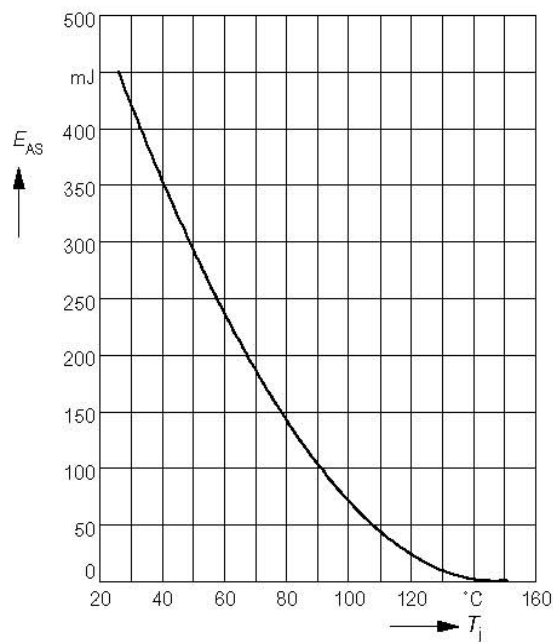
Forward characteristics of reverse diode

$I_F = f(V_{SD})$

parameter: T_j, $t_p = 80$ µs

Avalanche energy $E_{AS} = f(T_j)$
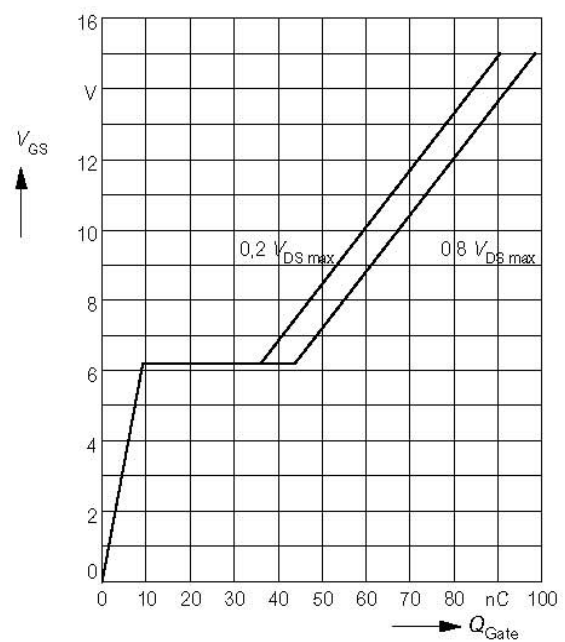parameter: $I_D = 21$ A, $V_{DD} = 50$ V
$R_{GS} = 25$ Ω, $L = 1.53$ mH

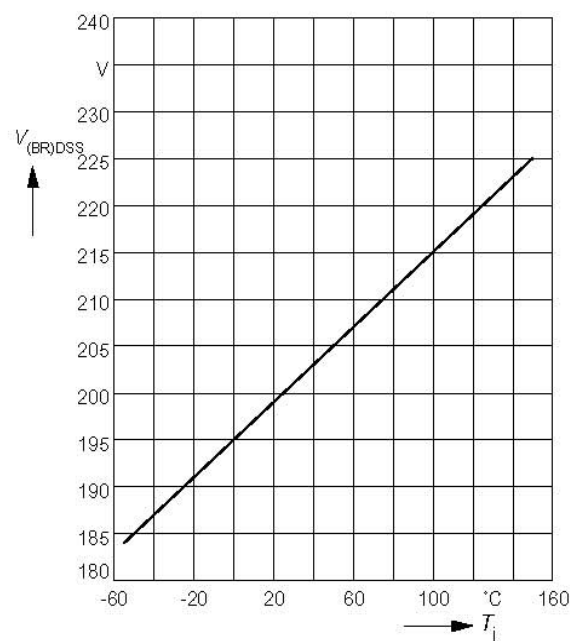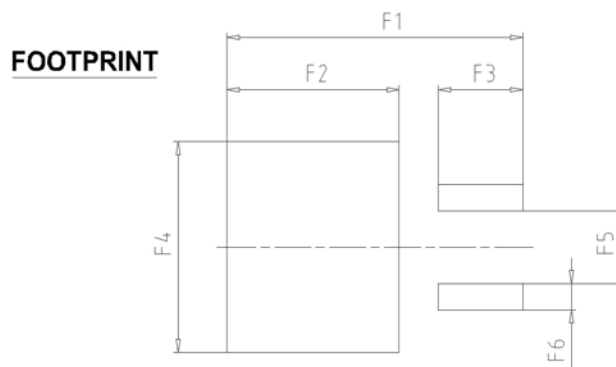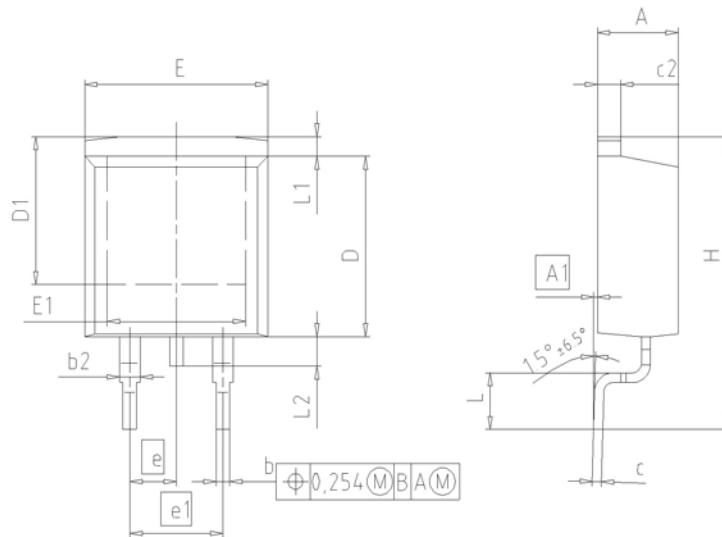**Typ. gate charge**
$V_{GS} = f(Q_{Gate})$
parameter: $I_{D\,puls} = 32$ A

Drain-source breakdown voltage
$V_{(BR)DSS} = f(T_j)$

FOOTPRINT

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.30	4.57	0.169	0.180
A1	0.00	0.25	0.000	0.010
b	0.65	0.85	0.026	0.033
b2	0.95	1.15	0.037	0.045
c	0.33	0.65	0.013	0.026
c2	1.17	1.40	0.046	0.055
D	8.51	9.45	0.335	0.372
D1	7.10	7.90	0.280	0.311
E	9.80	10.31	0.386	0.406
E1	6.50	8.60	0.256	0.339
e	2.54		0.100	
e1	5.08		0.200	
N	2		2	
H	14.61	15.88	0.575	0.625
L	2.29	3.00	0.090	0.118
L1	0.70	1.60	0.028	0.063
L2	1.00	1.78	0.039	0.070
F1	16.05	16.25	0.632	0.640
F2	9.30	9.50	0.366	0.374
F3	4.50	4.70	0.177	0.185
F4	10.70	10.90	0.421	0.429
F5	3.65	3.85	0.144	0.152
F6	1.25	1.45	0.049	0.057

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SCALE

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