

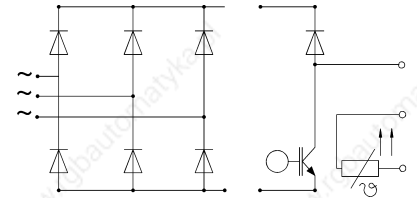
SKiiP 82 ANB 15 T1

Absolute Maximum Ratings		Values	Units
Symbol	Conditions ¹⁾		
Bridge Rectifier			
V _{RRM}		1500	V
I _D	T _{heatsink} = 80 °C	100 ³⁾	A
I _{FSM}	t _p = 10 ms; sin. 180 °, T _j = 25 °C	1000	A
I _{2t}	t _p = 10 ms; sin. 180 °, T _j = 25 °C	5000	A ² s
IGBT Chopper			
V _{CES}		1200	V
V _{GES}		± 20	V
I _C	T _{heatsink} = 25 / 80 °C	58 / 40	A
I _{CM}	t _p < 1 ms; T _{heatsink} = 25 / 80 °C	116 / 80	A
Freewheeling Diode ²⁾			
V _{RRM}		1200	V
I _F	T _{heatsink} = 25 / 80 °C	38 / 26	A
I _{FM}	t _p < 1 ms; T _{heatsink} = 25 / 80 °C	76 / 52	A
T _j	Diode & IGBT	- 40 ... + 150	°C
T _{stg}		- 40 ... + 125	°C
V _{isol}	AC, 1 min.	2500	V

Characteristics		min.	typ.	max.	Units
Symbol	Conditions ¹⁾				
Diode - Rectifier					
V _F	I _F = 75 A T _j = 125 °C	-	1,15	-	V
V _{TO}	T _j = 125 °C	-	0,8	-	V
r _T	T _j = 125 °C	-	4,5	-	mΩ
R _{thjh}	per diode	-	-	1,0	K/W
IGBT - Chopper					
V _{CEsat}	I _C = 50 A T _j = 25 (125) °C	-	2,5(3,1)	3,0(3,7)	V
t _{d(on)}	V _{CC} = 600 V; V _{GE} = ± 15 V	-	44	-	ns
t _r	I _C = 50 A; T _j = 125 °C	-	56	-	ns
t _{d(off)}	R _{gon} = R _{goff} = 22 Ω	-	380	-	ns
t _f	inductive load	-	70	-	ns
E _{on} + E _{off}		-	13	-	mJ
C _{ies}	V _{CE} = 25 V; V _{GE} = 0 V, 1 MHz	-	3,3	-	nF
R _{thjh}	per IGBT	-	-	0,5	K/W
Diode ²⁾ - Chopper					
V _F	I _F = 25 A T _j = 25 (125) °C	-	2,0(1,8)	2,5(2,3)	V
V _{TO}	T _j = 125 °C	-	1,0	1,2	V
r _T	T _j = 125 °C	-	32	44	mΩ
I _{RRM}	I _F = 25 A; V _R = - 600 V	-	25	-	A
Q _{rr}	di _F /dt = - 500 A/μs	-	4,5	-	μC
E _{off}	V _{GE} = 0 V, T _j = 125 °C	-	1,0	-	mJ
R _{thjh}	per diode	-	-	1,2	K/W
Temperature Sensor					
R _{TS}	T = 25 / 100 °C		1000 / 1670		Ω
Mechanical Data					
M ₁	mounting torque	2,5	-	3,5	Nm
Case	mechanical outline see pages B 16 - 13 and B 16 - 14		M8a		

MiniSKiiP 8 SEMIKRON integrated intelligent Power SKiiP 82 ANB 15 T1 3-phase bridge rectifier + IGBT braking chopper

Case M8a



UL recognized file no. E63532

- specification of temperature sensor see part A of data book '99
- common characteristics see page B 16 - 4 of data book '99

- ¹⁾ T_{heatsink} = 25 °C, unless otherwise specified
- ²⁾ CAL = Controlled Axial Lifetime Technology (soft and fast recovery)
- ³⁾ limited by spring contact

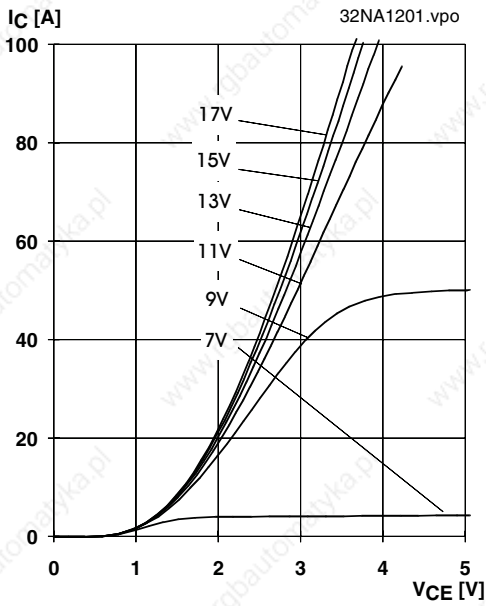


Fig. 1 Typ. output characteristic, $t_p = 80 \mu s$; $25 \text{ }^\circ\text{C}$

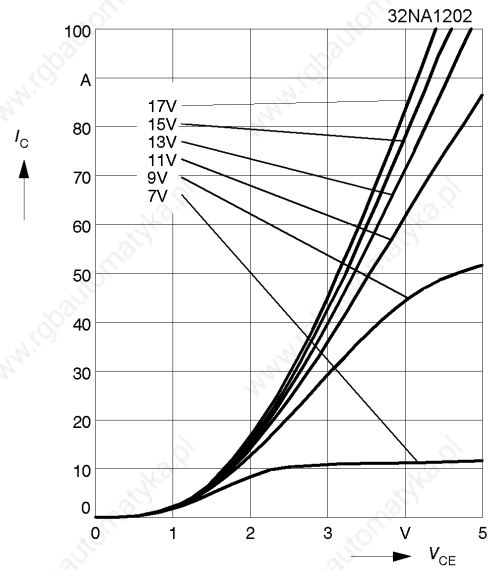


Fig. 2 Typ. output characteristic, $t_p = 80 \mu s$; $125 \text{ }^\circ\text{C}$

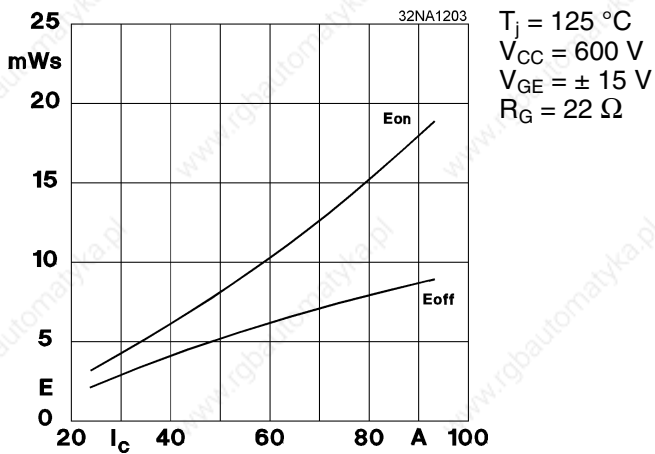


Fig. 3 Turn-on /-off energy = $f(I_C)$

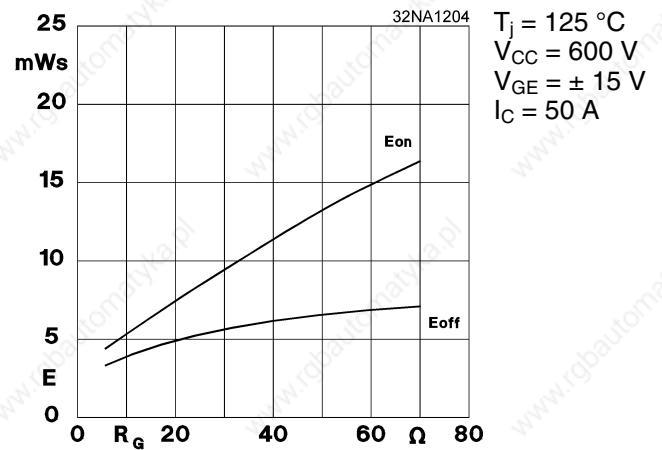


Fig. 4 Turn-on /-off energy = $f(R_G)$

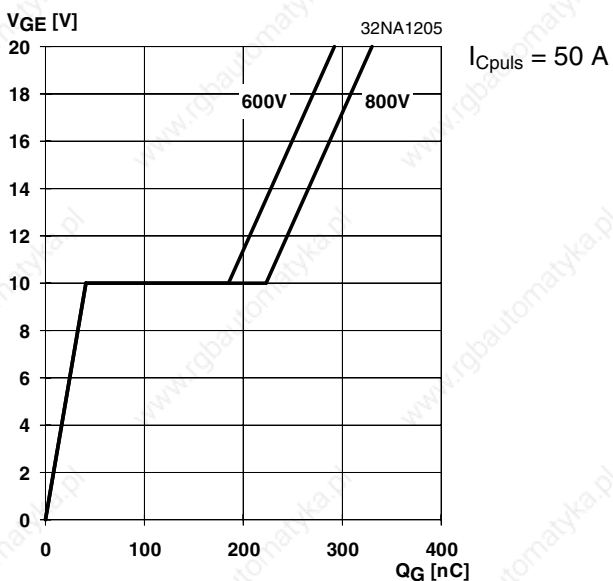


Fig. 5 Typ. gate charge characteristic

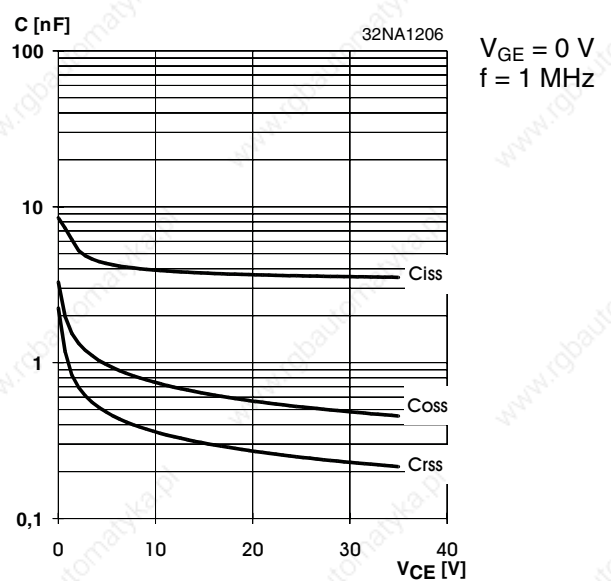


Fig. 6 Typ. capacitances vs. V_{CE}