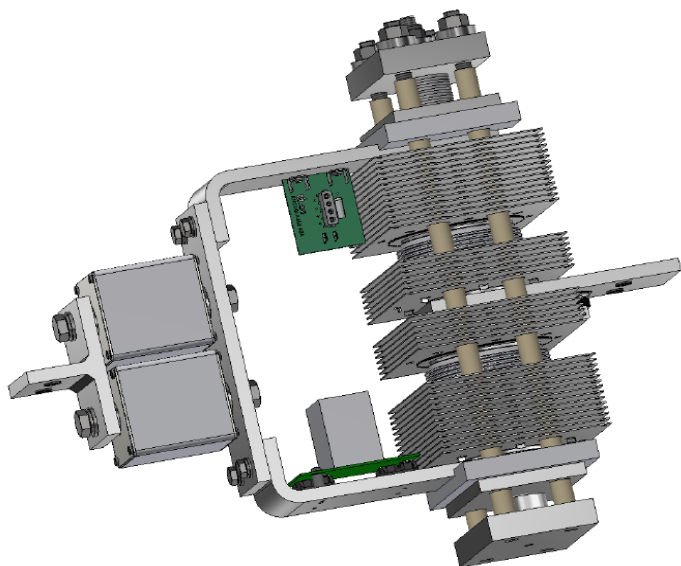
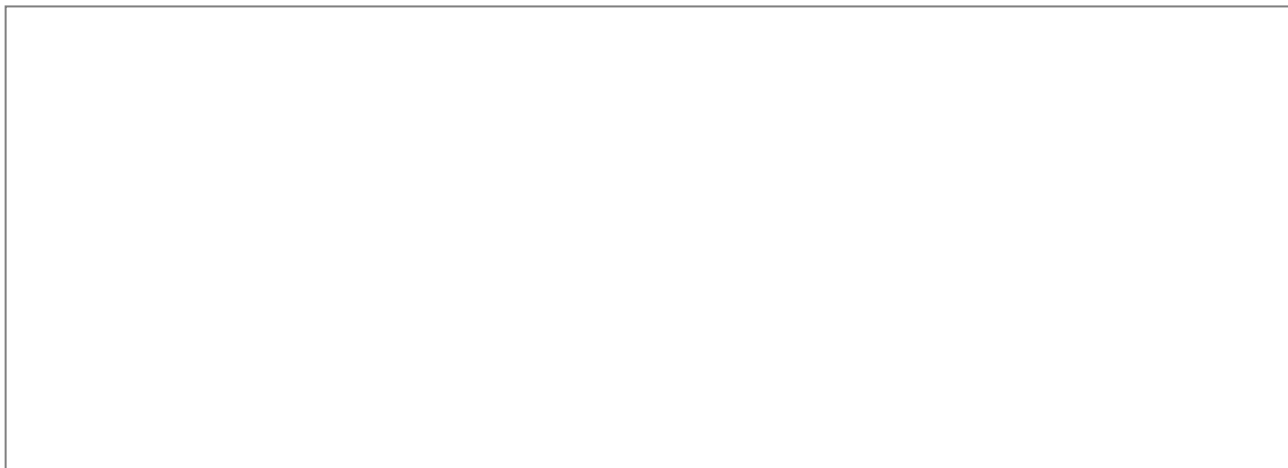


TECA129,_140,_149 SCR MODULES



- ▶ Extremely high power density
- ▶ Line voltage range up to 800 V_{RMS}
- ▶ High reliability
- ▶ Modularity
- ▶ User friendly assembly and maintenance
- ▶ Cost effective solution
- ▶ Suitable for heavy duty applications



Maximum Ratings

Parameters	Part number	TECA129	TECA140	TECA149	Conditions	Units
I _{T(AV)}		1290	1400	1490	180° cond, half sine T _a = 40 °C Air velocity = 7.5 m/s	A
I _{T(RMS)}		2025	2198	2339		A
I _{TSM}		38	38	44	50 Hz, T _j = T _{jmax} , V _R = 0 V	kA
I _{TSM}		40.1	40.1	46.4	60 Hz, T _j = T _{jmax} , V _R = 0 V	kA
I ² t		7220	7220	9680	50 Hz, T _j = T _{jmax} , V _R = 0 V	kA ² s
I ² t		6570	6570	8809	60 Hz, T _j = T _{jmax} , V _R = 0 V	kA ² s
V _{DRM} /V _{RRM}		2800	2200	1800	T _j = T _{jmax}	V
T _{jmax}		125	135	125		°C

Part Number	V code	VDRM VRRM max repetitive reverse and off-state blocking voltage [V]	IDRM IRRM @ Tjmax [mA]	VL(RMS) maximum suggested RMS line voltage [V]
TECA149	12	1200	200	400
	16	1600	200	500
	18	1800	200	550
TECA140	22	2200	200	690
TECA129	28	2800	200	800

On-State Characteristics

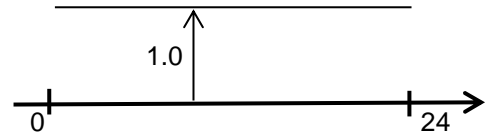
Parameters		TECA129	TECA140	TECA149		Conditions	Units
V _{T(TO)}	Threshold voltage	0.85	0.85	0.85		T _j = T _{jmax}	V
r _T	On-state slope resistance	0.20	0.20	0.12		T _j = T _{jmax}	mΩ
I _H	Holding current, max	300	300	300		T _j = 25°C	mA
I _L	Latching current, typ	1500	1500	1500		T _j = 25°C	mA
P _{MAX}	Max power losses	3864	4318	3864		T _A = 40°C	W

Triggering Characteristics

Parameters		TECA129	TECA140	TECA149		Conditions	Units
V _{GT}	Gate trigger voltage	3	3	3		T _j = 25°C, V _D = 5V	V
I _{GT}	Gate trigger current	300	300	300		T _j = 25°C, V _D = 5V	mA
P _{GM}	Peak gate power dissipation	10	10	10		Pulse width 1 ms	W
P _{G(AV)}	Average gate power dissipation	5	5	5			W
I _{FGM}	Peak gate current	3	3	3			A
V _{FGM}	Peak gate voltage (forward)	20	20	20			V
V _{RGM}	Peak gate voltage (reverse)	5	5	5			V

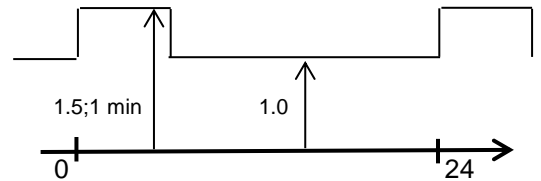
Switching Characteristics

Parameters		TECA129	TECA140	TECA149	0	Conditions	Units
di/dt	Critical rate of rise of on-state current	200	200	200		T _j = T _{jmax}	A/μs
dV/dt	Critical rate of rise of off-state voltage	1000	1000	1000		T _j = T _{jmax}	V/μs
t _q	Turn-off time, typ	400	350	250		T _j =T _{jmax} , I _T =1000A di/dt=-10A/μs V _R =50V dV/dt=20V/μs	μs



Maximum IEC class 1 currents for typical circuit type

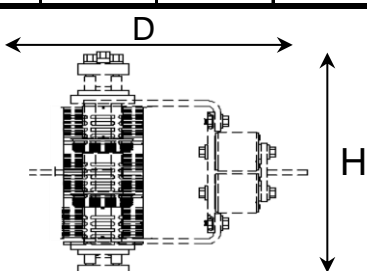
Circuit Type	TECA129	TECA140	TECA149	Conditions	Units
AC switch	2882	3128	3329	Ta = 40 °C Air velocity = 7.5 m/s	A
	2580	2800	2980		A
Two pulse regen bridge	2580	2800	2980		A
Six pulse regen bridge	3625	3900	4230		A



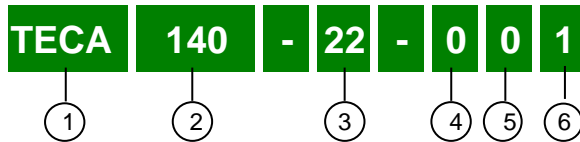
Maximum IEC class 2 currents for typical circuit type

Circuit Type	TECA129	TECA140	TECA149	Conditions	Units
AC switch	2170	2345	2502	Ta = 40 °C Air velocity = 7.5 m/s	A
Two pulse bridge	1943	2099	2240		A
Six pulse bridge	2724	2936	3175		A

Thermal and mechanical characteristics

Parameters	TECA129	TECA140	TECA149	Conditions	Units
T _{jmax} Max operating junction temperature	125	135	125		°C
T _{stg} Storage temperature	-40 +70	-40 +70	-40 +70		°C
R _{thJA} Thermal resistance (junction to ambient)	0.044	0.044	0.044	Air velocity = 7.5 m/s	°C/W
F Mounting torque - TEC to panel (+/- 10%) Mounting torque - busbar to TEC (+/- 10%)	14	14	14	Busbar	N·m
	14	14	14	M8 captive nut	N·m
Overall dimensions					
D Depth	491.5				mm
H Height	431				mm
W Width	170				mm
m Mass	34.5				kg

PART-NUMBERING SYSTEM

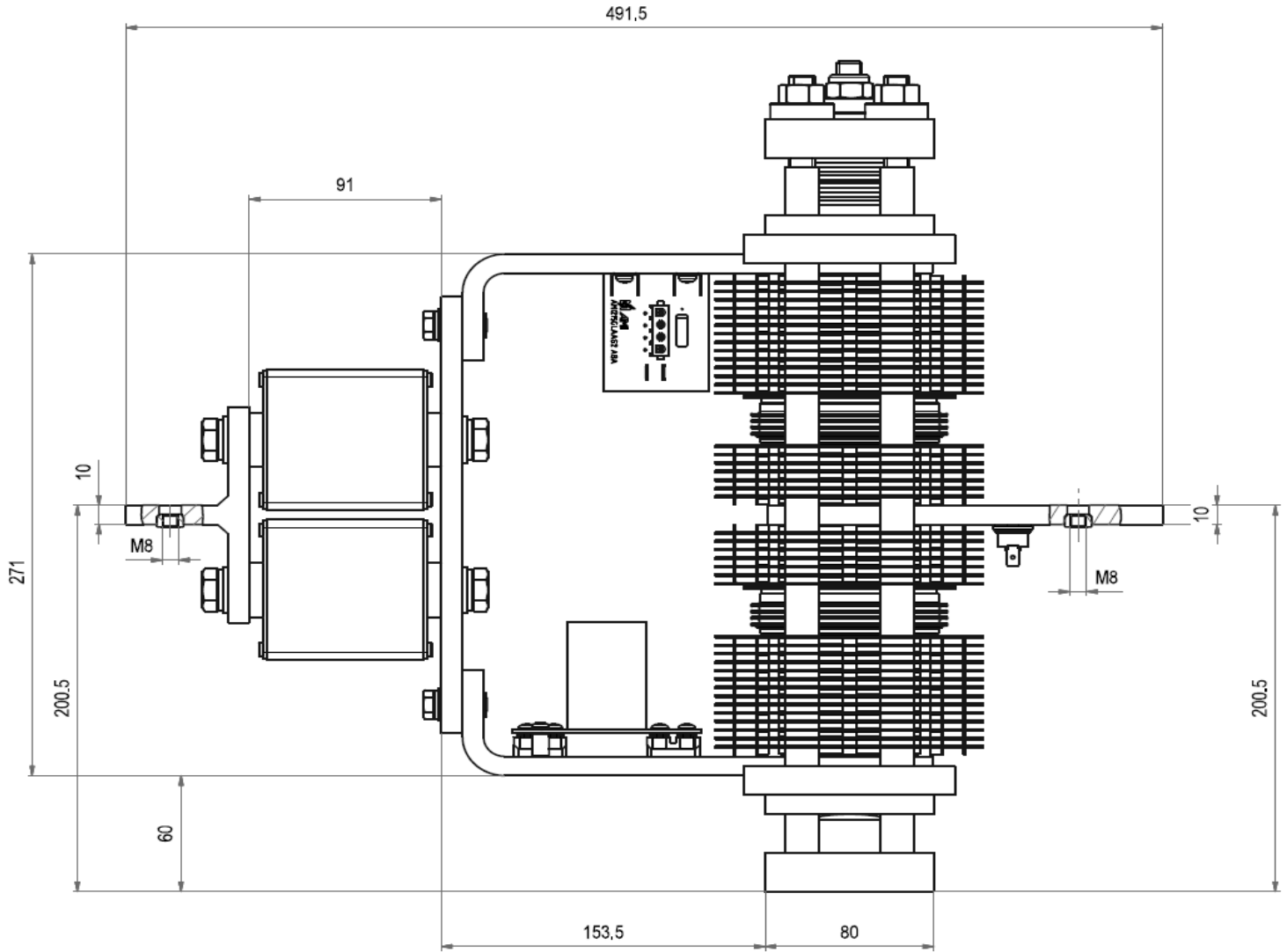


- ① Circuit configuration = AC-switch
- ② Average current / 10
- ③ Blocking voltage / 100
- ④ 0 = No fuse - 1 = with fuse for regen application
- ⑤ 0 = no blown-fuse microswitch
- ⑥ 0 = No snubber - 1 = one RC snubber -
R = one snubber resistor

In the interest of product improvement Green Power Solutions reserves the right to change any specification given in this data sheet without notice.

TECA_ - Main dimensions

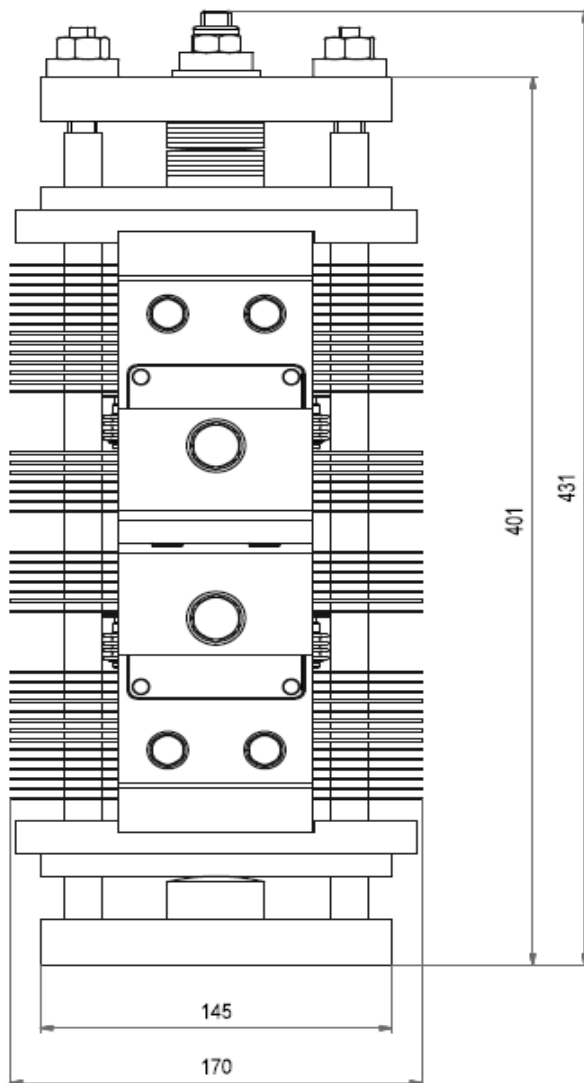
Side view



dimensions in mm

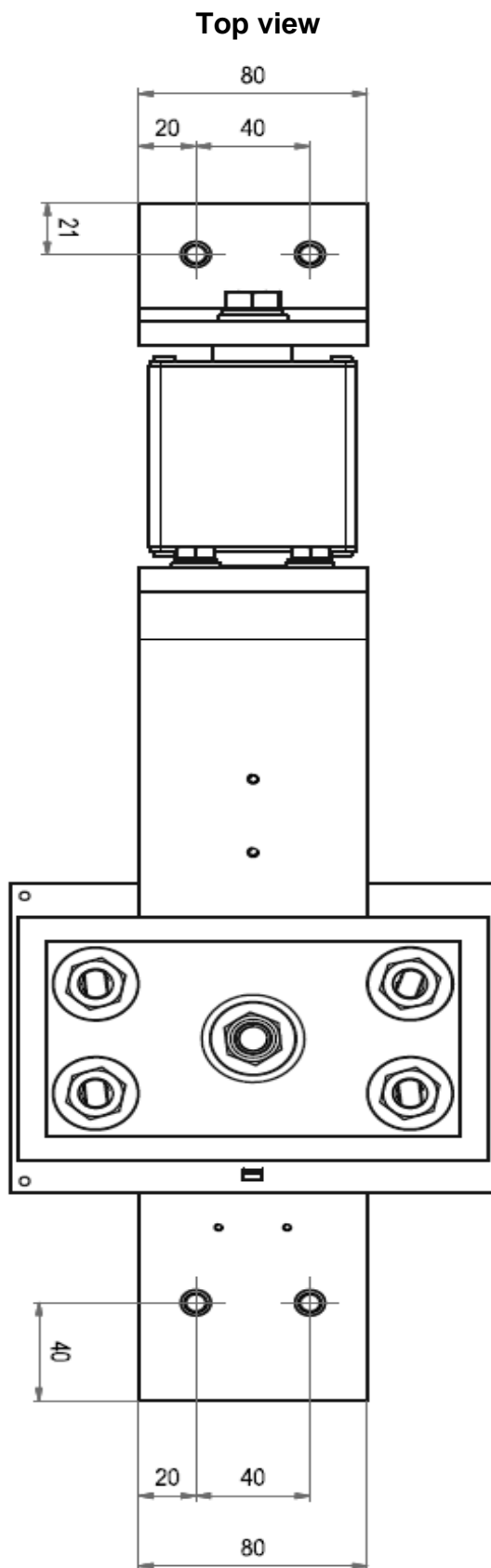
TECA_ - Main dimensions

Fuse side view



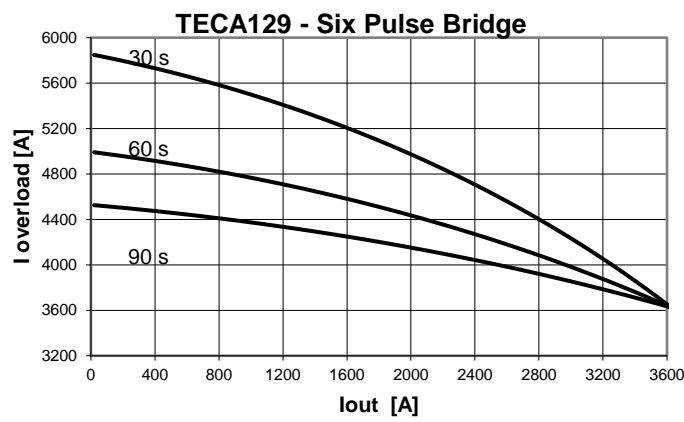
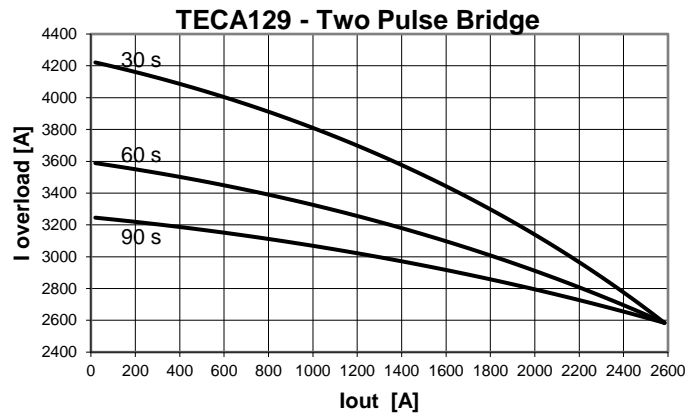
dimensions in mm

TECA_ - Main dimensions

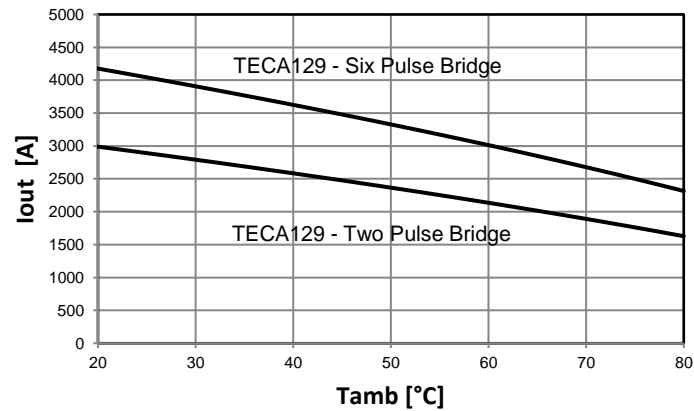


dimensions in mm

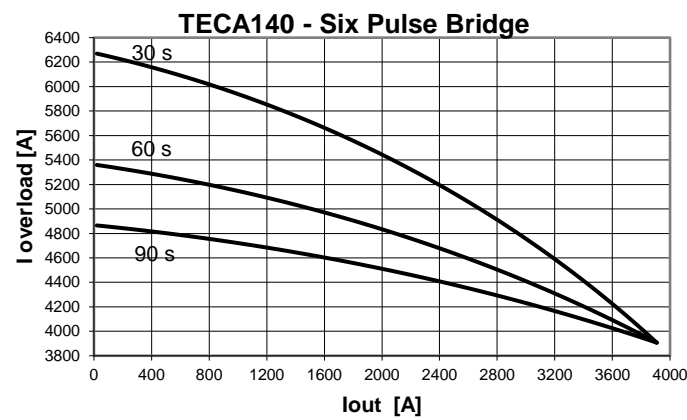
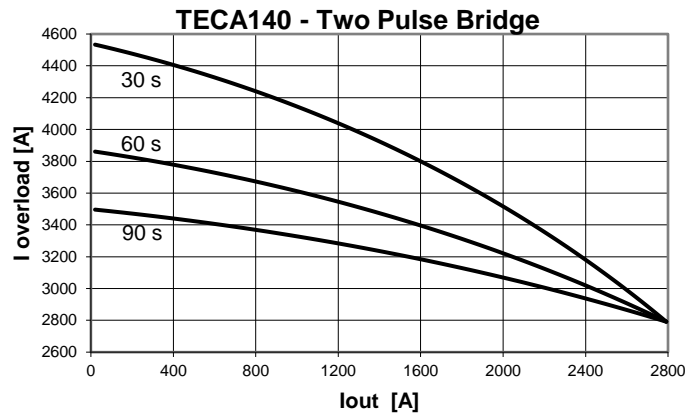
Overload capability at different overload time - Tamb = 40 °C



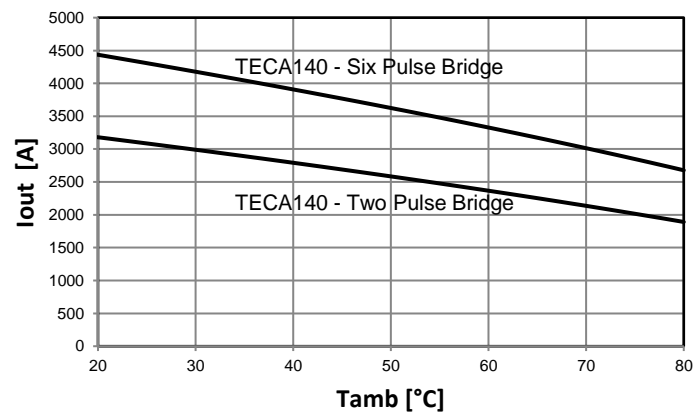
Max output vs Tamb



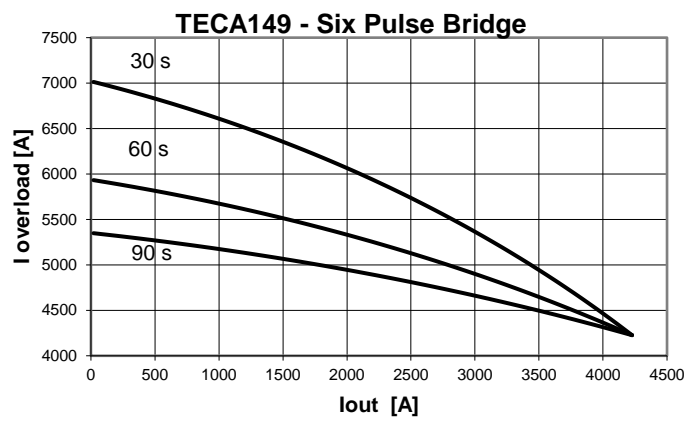
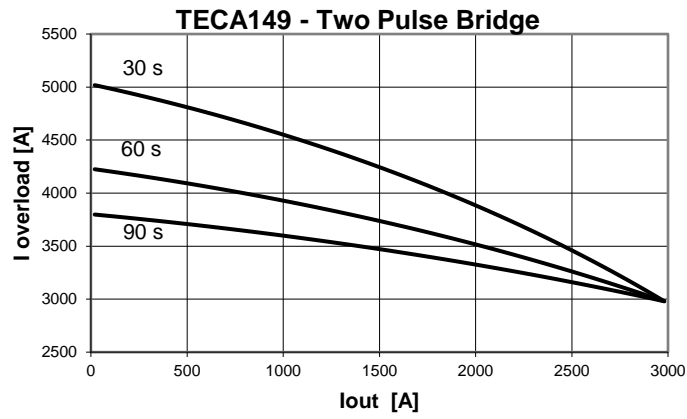
Overload capability at different overload time - Tamb = 40 °C



Max output vs Tamb



Overload capability at different overload time - Tamb = 40 °C



Max output vs Tamb

