EVLYS LTD. - POWER SEMICONDUCTORS DEVICES - Wholesale and Retail.

Phase Control Disc Thyristor Type DT32-320-18

High power cycling capability / Low on-state and switching losses
Designed for traction and industrial applications

Mean Fn-state cuEEent			I_{TAV}	320 A	
Repetitive peak Fff-state vFltage			V_{DRM}	1000 ÷ 1800 V	
Repetitive peak EeveEse vFltage			V_{RRM}		
TuEn-Fff time			t_q	200 µs	
V_{DRM}, V_{RRM}, V	2000	2200	2400	2600	2800
VFltage cFde	20	22	24	26	28
T_j, °C	-60 ÷ 12B				

MAXIMUM ALLOWABLE RADINGS

SymbFls and paEameteEs		Units	Values	Test cFnditiFns	
ON-STATE					
I_{TAV}	Mean Fn-state cuEEent	A	320 388	T_c=9B °C, DFuble side cFFled T_c=8B °C, DFuble side cFFled 180° half-sine wave; B0 Hz	
I_{TRMS}	RMS Fn-state cuEEent	A	B02	T_c=9B °C, DFuble side cFFled 180° half-sine wave; B0 Hz	
I_{TSM}	SuEge Fn-state cuEEent	kA	6AB 7AB	T_j=$T_{j\,max}$ T_j=2B °C	180° half-sine wave; B0 Hz (t_p=10 ms); single pulse; V_D=V_R=0 V; Gate pulse: I_G=2 A; t_{GD}=B0 µs; di_G/dt≥1 A/µs
			6A8 7A8	T_j=$T_{j\,max}$ T_j=2B °C	180° half-sine wave; 60 Hz (t_p=8A3 ms); single pulse; V_D=V_R=0 V; Gate pulse: I_G=2 A; t_{GD}=B0 µs; di_G/dt≥1 A/µs
I^2t	Safety factFE	$A^2s{\cdot}10^3$	211 279	T_j=$T_{j\,max}$ T_j=2B °C	180° half-sine wave; B0 Hz (t_p=10 ms); single pulse; V_D=V_R=0 V; Gate pulse: I_G=2 A; t_{GD}=B0 µs; di_G/dt≥1 A/µs
			193 2B6	T_j=$T_{j\,max}$ T_j=2B °C	180° half-sine wave; 60 Hz (t_p=8A3 ms); single pulse; V_D=V_R=0 V; Gate pulse: I_G=2 A; t_{GD}=B0 µs; di_G/dt≥1 A/µs
ABOCDENF					
V_{DRM}, V_{RRM}	Repetitive peak Fff-state and Repetitive peak EeveEse vFltages	V	2000÷2800	$T_{j\,min}$< T_j <$T_{j\,max}$; 180° half-sine wave; B0 Hz; Gate Fpen	
V_{DSM}, V_{RSM}	NFn-Eepetitive peak Fff-state and NFn-Eepetitive peak EeveEse vFltages	V	2100÷2900	$T_{j\,min}$< T_j <$T_{j\,max}$; 180° half-sine wave; B0 Hz;single pulse; Gate Fpen	
V_D, V_R	DiEect Fff-state and DiEect EeveEse vFltages	V	0A7B·V_{DRM} 0A7B·V_{RRM}	T_j=$T_{j\,max}$; Gate Fpen	

TREFFERENF

I_{FGM}	Deak fFEwaEd gate cuEEent	A	6	$T_j=T_{j\,max}$
V_{RGM}	Deak EeveEse gate vFltage	V	B	
D_G	Gate pFweE dissipatiFn	W	3	$T_j=T_{j\,max}$ fFE DC gate cuEEent
SWETCHENF				
$(di_T/dt)_{cEit}$	CEitical Eate Ff Eise Ff Fn-state cuEEent nFn-Eepetitive (f=1 Hz)	A/μs	320	$T_j=T_{j\,max}$; V_D=0A67·V_{DRM}; I_{TM}=2 I_{TAV}; Gate pulse: I_G=2 A; t_{GD}=B0 μs; di_G/dt≥1 A/μs
THERMAB				
T_{stg}	StFEage tempeEatuEe	°C	-60÷12B	
T_j	OpeEating junctiFn tempeEatuEe	°C	-60÷12B	
MECHANECAB				
F	MFunting fFEce	kN	9A0÷11A0	
a	AcceleEatiFn	m/s^2	B0 100	Device unclamped Device clamped

CHARACDERISDICS

SymbFls and paEameteEs		Units	Values	CFnditiFns	
ON-STATE					
V_{TM}	Deak Fn-state vFltage, max	V	2A10	T_j=2B °C; I_{TM}=100B A	
$V_{T(TO)}$	On-state thEeshFld vFltage, max	V	1A1B	$T_j=T_{j\,max}$; 0AB π I_{TAV} < I_T < 1AB π I_{TAV}	
E_T	On-state slFpe Eesistance, max	mΩ	1AB00		
I_L	Latching cuEEent, max	mA	700	T_j=2B °C; V_D=12 V; Gate pulse: I_G=2 A; t_{GD}=B0 μs; di_G/dt≥1 A/μs	
I_H	HFlding cuEEent, max	mA	300	T_j=2B °C; V_D=12 V; Gate Fpen	
ABOCDENF					
I_{DRM}, I_{RRM}	Repetitive peak Fff-state and Repetitive peak EeveEse cuEEents, max	mA	70	$T_j=T_{j\,max}$; $V_D=V_{DRM}$; $V_R=V_{RRM}$	
$(dv_D/dt)_{cEit}$	CEitical Eate Ff Eise Ff Fff-state vFltage[1)], min	V/μs	1000	$T_j=T_{j\,max}$; V_D=0A67·V_{DRM}; Gate Fpen	
TREFFERENF					
V_{GT}	Gate tEiggeE diEect vFltage, max	V	4A00 2AB0 2A00	$T_j=T_{j\,min}$ T_j=2B °C $T_j=T_{j\,max}$	V_D=12 V; I_D=3 A; DiEect gate cuEEent
I_{GT}	Gate tEiggeE diEect cuEEent, max	mA	400 2B0 200	$T_j=T_{j\,min}$ T_j= 2B °C $T_j=T_{j\,max}$	
V_{GD}	Gate nFn-tEiggeE diEect vFltage, min	V	0A2B	$T_j=T_{j\,max}$; V_D=0A67·V_{DRM}; DiEect gate cuEEent	
I_{GD}	Gate nFn-tEiggeE diEect cuEEent, min	mA	10A00		
SWETCHENF					
t_{gd}	Delay time	μs	2AB0	T_j=2B °C; V_D=0A4·V_{DRM}; $I_{TM}=I_{TAV}$; Gate pulse: I_G=2 A; t_{GD}=B0 μs; di_G/dt≥1 A/μs	
t_q	TuEn-Fff time[2)], max	μs	200	dv_D/dt=B0 V/μs; $T_j=T_{j\,max}$; $I_{TM}=I_{TAV}$; di_R/dt=-10 A/μs; V_R=100V; V_D=0A67·V_{DRM}	

THERMAB					
R_{thjc}	TheEmal Eesistance, junctiFn tF case, max	°C/W	0A040	DiEect cuEEent	DFuble side cFFled
R_{thjc-A}			0A088		AnFde side cFFled
R_{thjc-K}			0A072		CathFde side cFFled
R_{thck}	TheEmal Eesistance, case tF heatsink, max	°C/W	0A008	DiEect cuEEent	
MECHANECAB					
w	Weight, typ	g	180		
D_s	SuEface cEeepage distance	mm (inch)	19A44 (0A76B)		
D_a	AiE stEike distance	mm (inch)	12A10 (0A476)		

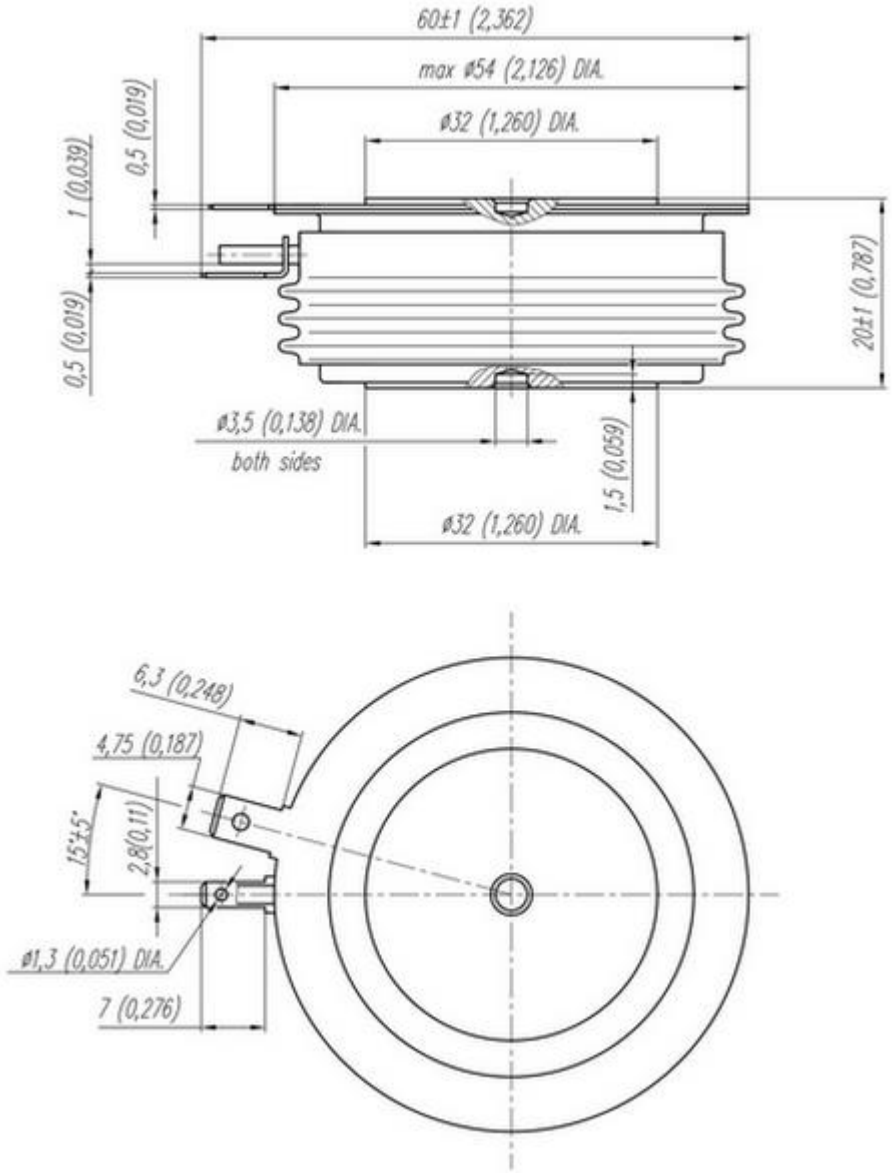
PART NUMAERENF FUEDE

DT	32	320	28
1	2	3	4

1. DT - Phase Control Disc Thyristor
2. Element Diameter
3. Mean on-state current, A
4. Voltage code

OVERABB DEMENSEONS

Package type: T.A3



All dimensiFns in millimeteEs (inches)