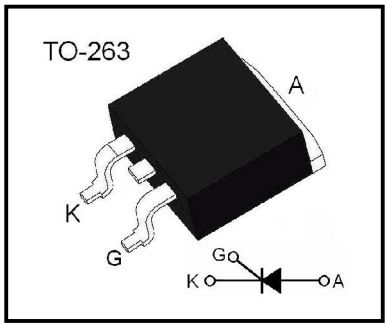
Applications

Glasspassivated thyristors ina plastic envelope, intended for use in applications requiring high bidirectional blocking voltage capability and high thermal cycling performance. Typical applications include motor control, industrial and domestic lighting, heating and static switching.



Absolute Maximum Rating (T_C=25°C unless otherwise specified)

Symbol	Parameter	Conditions		Value	Unit
V_{DRM} V_{RRM}	Repetitive peak off-state voltage Repetitive peak reverse voltage	500L,500R		500	V
		650L,650R		650	
		800R		800	
$I_{T(AV)}$	Average on-state current			16	A
$I_{T(RMS)}$	RMS on-state current	full sine wave; $T_{mb} \leq 102$ °C		25	A
I_{TSM}	Non-repetitive peak on-state current	full sine wave; T_j = 25 °C prior to surge	t = 10 ms	250	A
			t = 8.3 ms	270	
I_{2t}	I^2t value	t = 10 ms		130	A^2/s
I_{GM}	Peak gate current			5	A
$P_{G(AV)}$	Average gate power	over any 20 ms period		0.5	W
T_j	Operating Junction Temperature Range			125	°C
T_{stg}	Storage Temperature Range			–40 ~ +150	°C

Electrical Characteristics (T_j = 25 °C unless otherwise stated)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
I_{GT}	Gate trigger current	V_D = 12 V; I_T = 0.1 A			50	mA
I_L	Latching current	V_D = 12 V; I_{GT} = 0.1 A			100	mA
I_H	Holding current	V_D = 12 V; I_{GT} = 0.1 A	-		80	mA
V_T	On-state voltage	I_T = 30A	-		1.3	V
V_{GT}	Gate Trigger Voltage	V_D = 12 V; I_T = 0.1 A V_D = V_{DRM}; I_T = 0.1 A	- 0.2		1. -	V
I_D	Off-state leakage current	V_D = $V_{DRM(max)}$; T_j = 125 °C	-		2	mA
I_R	Reverse current	V_D = $V_{DRM(max)}$; T_j = 125 °C	-		2	mA

Typical Characteristics

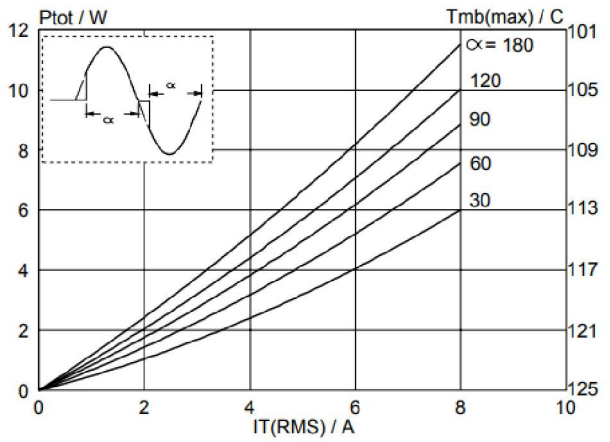


Fig.1. Maximum on-state dissipation,P_{tot},versus rms on-state current,$I_{T(RMS)}$,where α=conduction angle.

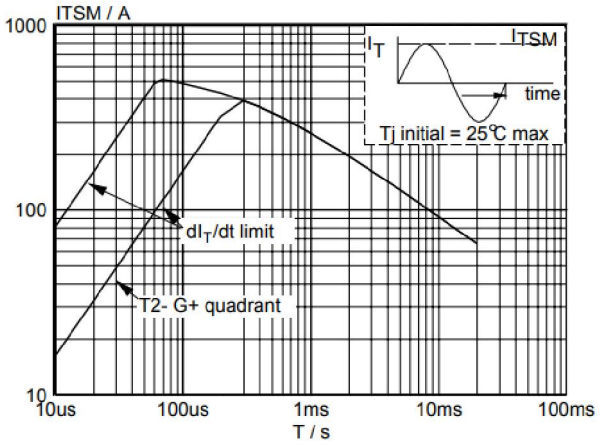


Fig.2. Maximum permissible non-repetitive peak on-state current I_{TSM}, versus pulse width tp, for sinusoidal currents, tp ≤ 20ms.

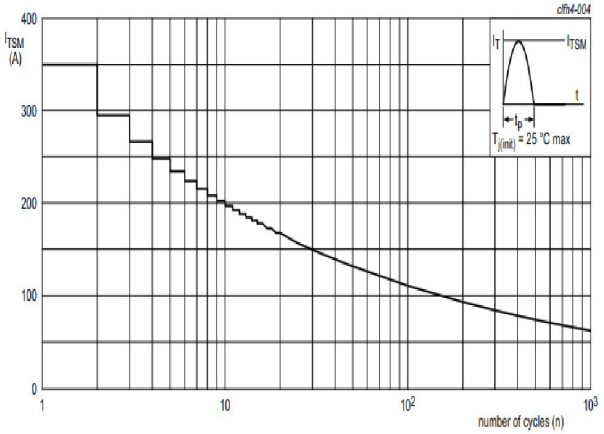


Fig.3. Maximum permissible non-repetitive peak on-state current I_{TSM}, versus number of cycles, for sinusoidal currents, f = 50 Hz.

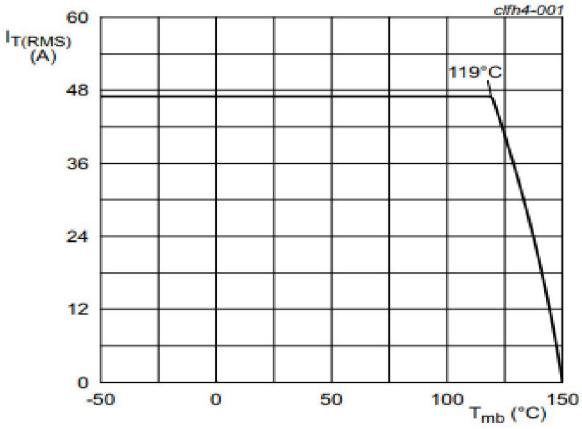


Fig.4. Maximum permissible rms current $I_{T(RMS)}$, versus lead temperature Tlead.

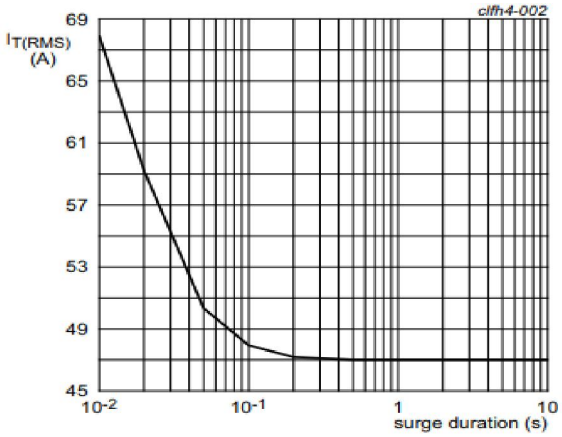


Fig.5. Maximum permissible repetitive rms on-state current $I_{T(RMS)}$, versus surge duration, for sinusoidal currents, f = 50 Hz; Tmb ≤ 102˚C.

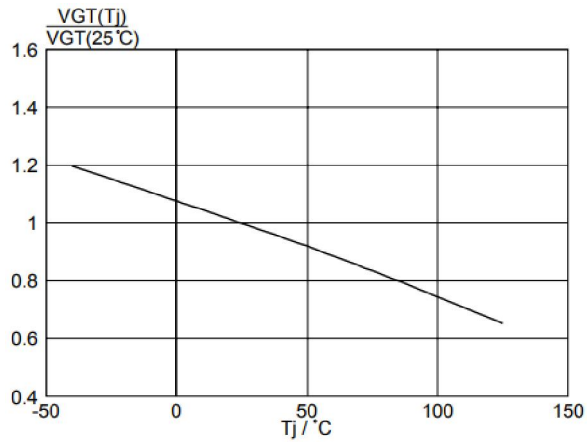


Fig.6. Normalised gate trigger voltage V_{GT}(Tj)/ V_{GT}(25°C), versus junction temperature Tj.

Typical Characteristics

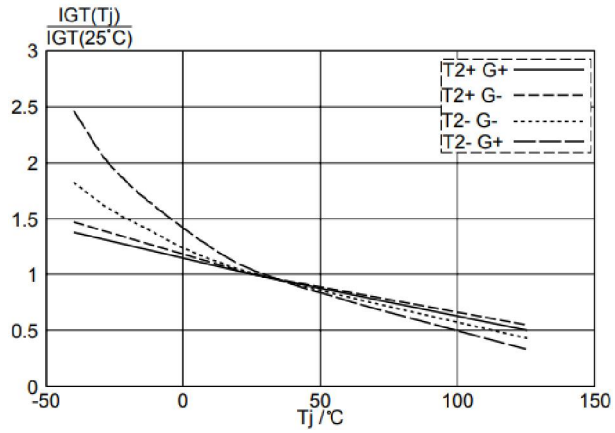


Fig.7. Normalised gate trigger current $I_{GT}(Tj)$ / $I_{GT}(25°C)$,versus junction temperature Tj.

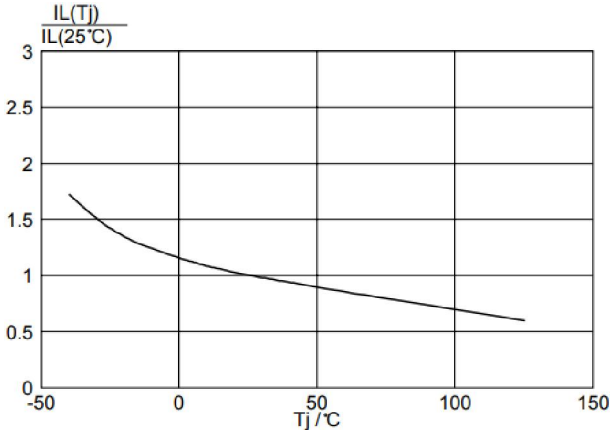


Fig.8. Normalised latching current $I_L(Tj)$ / $I_L(25°C)$, versus junction temperature Tj.

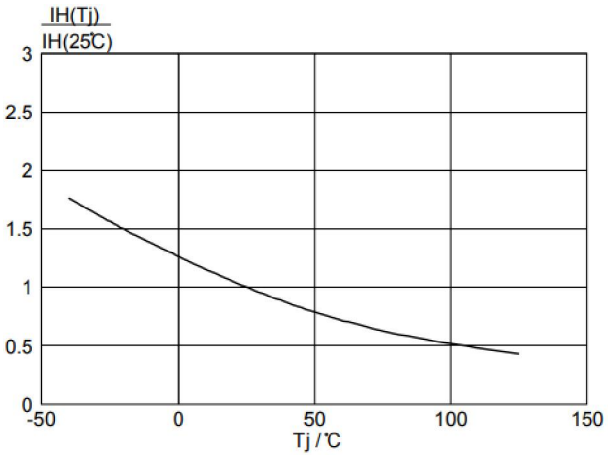


Fig.9. Normalised holding current $I_H(Tj)$ / $I_H(25°C)$, versus junction temperature Tj.

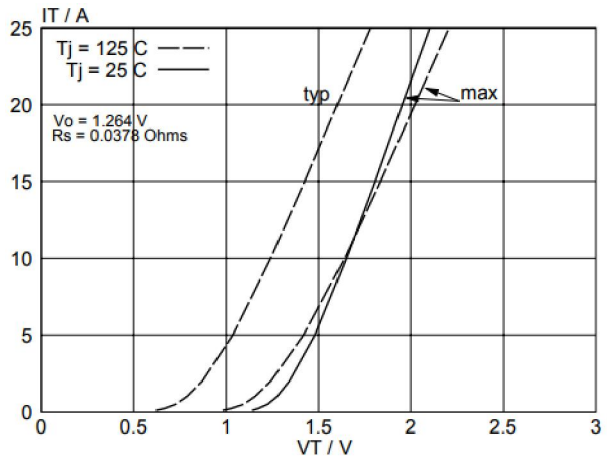


Fig.10. Typical and maximum on-state characteristic.

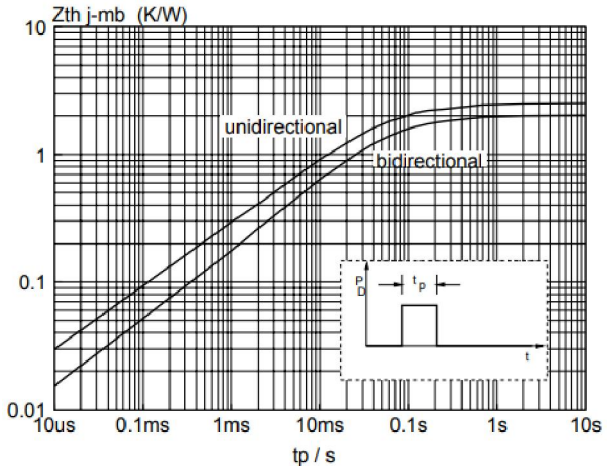


Fig.11. Transient thermal impedance Zth j-lead, pulse width tp.

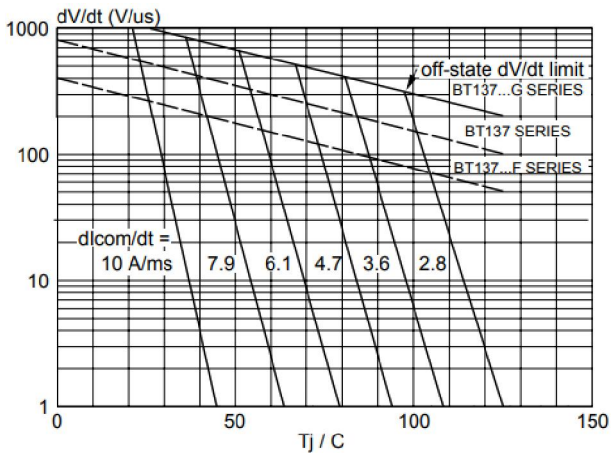
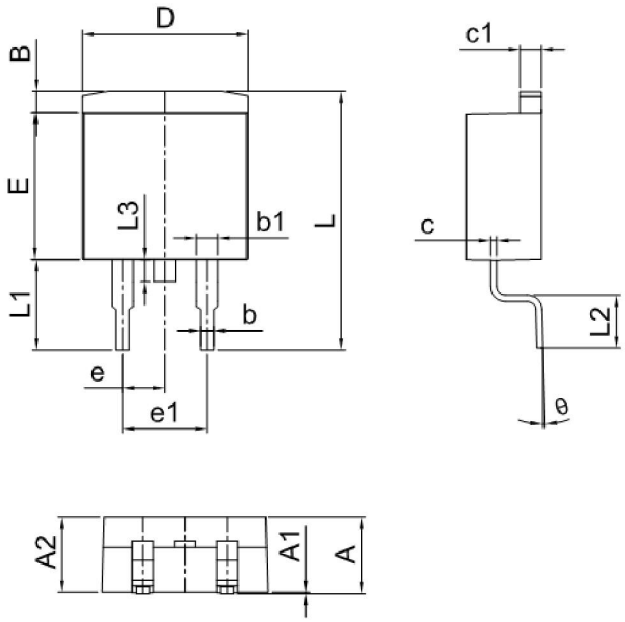


Fig.12. Typical, critical rate of rise of off-state voltage, dV/dt versus junction temperature Tj.

Package Dimensions



Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.30	4.70	0.169	0.185
A1	0.00	0.15	0.000	0.006
A2	4.30	4.55	0.169	0.179
B	1.10	1.50	0.043	0.059
b	0.70	0.90	0.028	0.035
b1	1.20	1.50	0.047	0.059
c	0.30	0.60	0.012	0.024
c1	1.17	1.37	0.046	0.054
D	9.90	10.20	0.390	0.402
E	8.50	8.90	0.335	0.350
e	2.44	2.64	0.096	0.104
e1	4.88	5.28	0.192	0.208
L	15.00	15.30	0.591	0.602
L1	5.20	5.40	0.205	0.213
L2	2.40	2.60	0.094	0.102
L3	1.60	1.80	0.063	0.071