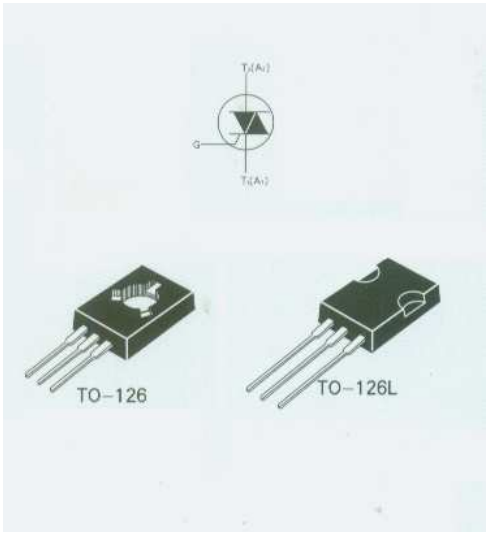
STANDARD **4A TRIACs**

■ MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	4	A
$V_{(DRM)}/V_{RRM}$	600 to 800	V
$I_{GT(Q1)}$	3 to 25	mA



■ GENERAL DESCRIPTION

The BT134 series is suitable for general purpose AC switching applications. They can be found in applications such as touch light dimmers, fan controllers, HID lamp ignitors,

Different gate current sensitivities are available, allowing optimized performances when controlled directly from micro-controllers.

■ ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter			Value	Unit
$I_{T(RMS)}$	RMS on-state current (full sine wave)		Tc=30℃	4	A
			Tamb=25℃	1	A
I_{TSM}	Non repetitive surge peak on-state current (full cycle, Tj initial=25℃)	F=50Hz	t=20ms	20	A
		F=60Hz	t=16.7ms	21	
I^2T	I^2T Value for fusing	tp=10ms		2.2	A^2s
dI/dt	Critical rate of rise of on-state current I_G=2 × I_{GT}, tr≤100ns	F=120Hz	Tj=125℃	20	A/μs
I_{GM}	Peak gate current	tp=20μs	Tj=125℃	1.2	A
$P_{G(AV)}$	Average gate power dissipation		Tj=125℃	0.2	W
T_{stg}	Storage junction temperature range			-40 to+150	℃
T_j	Operating junction temperature range			-40 to+125	

■ STATIC CHARACTERISTICS

Tj=25℃ unless otherwise stated

Symbol	Test Conditions	Quadrant		Value			Unit
				D	E	C	
I_{GT}(1)	V_D=12V R_L=30Ω	ALL	MAX.	5	10	25	mA
V_{GT}		ALL	MAX.	1.5			V
V_{GD}	V_D=V_{DRM} R_L=3.3KΩ Tj=125℃	ALL	MIN.	0.2			V
I_H(2)	I_T=50mA		MAX.	5	10	25	mA
I_L	I_G=1.2I_{GT}	I-III-IV	MAX.	10	15	25	mA
		II		15	25	50	
V_{TM}(2)	I_{TM}=5.5A tp=380μs	Tj=25℃	MAX.	1.6			V
V_{t0}(2)	Threshold voltage	Tj=125℃	MAX.	0.95			V
R_d(2)	Dynamic resistance	Tj=125℃	MAX.	180			mΩ
I_{DRM}	V_{DRM}=V_{RRM}	Tj=25℃	MAX.	50			μA
I_{RRM}		Tj=125℃		0.5			mA

■ DYNAMIC CHARACTERISTICS

Symbol	Test Condition		D	E	C	Unit
dV/dt(2)	V_D=67% V_{DRM} gate open Tj=110℃	MIN.	20	100	200	V/μs
(dV/dt)c(2)	(dI/dt)c=1.8A/ms Tj=110℃	MIN.	1	2	5	V/μs

Note1: minimum I_{GT} is guaranteed at 5% of I_{GT} max.

Note2: for both polarities of A2 referenced to A1.

■ THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-l)}$	Junction to lead (AC)	15	℃/W
$R_{th(j-a)}$	Junction to ambient	100	℃/W

PERFORMANCE CURVES

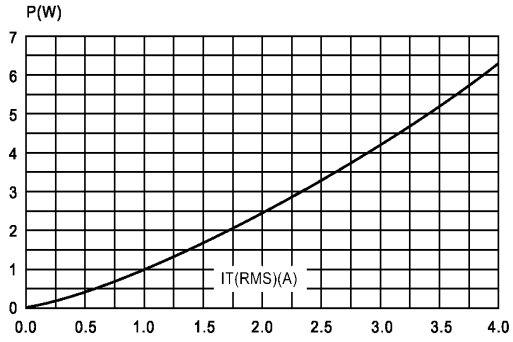


Fig.1. Maximum power dissipation versus RMS on-state current (full cycle)

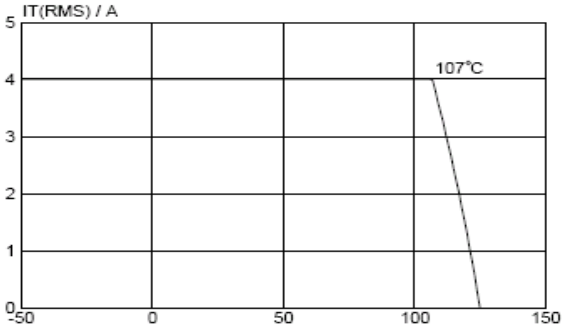


Fig.4. RMS on-state current versus ambient temperature (full cycle)

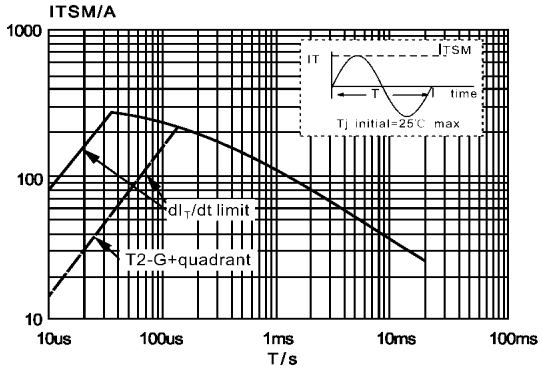


Fig.2. Maximum permissible non-repetitive peak, on-state current I_{TSM} versus pulse width t_p, for sinusoidal currents, $t_p \leqslant$ 20ms

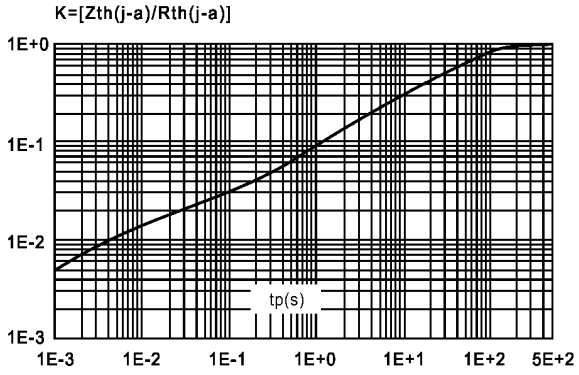


Fig.5. Relative variation of thermal impedance junction to ambient versus pulse duration

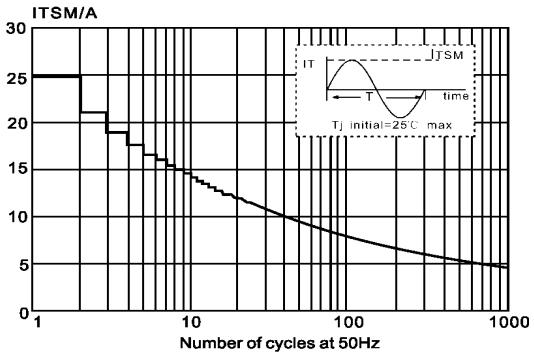


Fig.3. Maximum permissible non-repetitive peak on-state current I_{TSM} versus number of cycles, for sinusoidal currents, f=50Hz

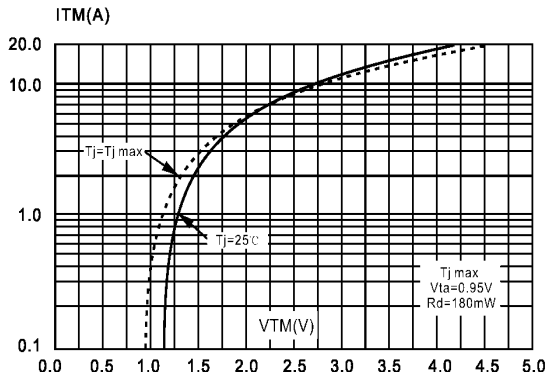


Fig.6. On-state characteristics (maximum values),

PERFORMANCE CURVES

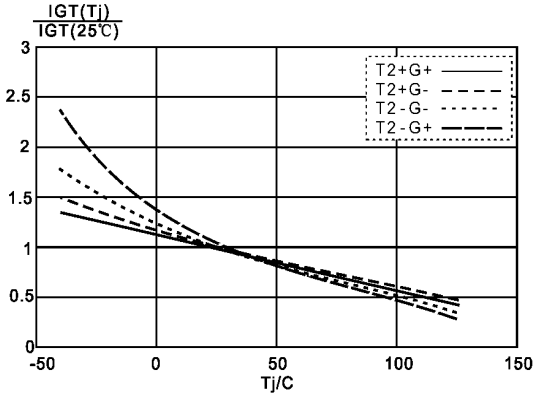


Fig.7. Normalized gate trigger current $I_{GT}(T_j)/I_{GT}(25^oC)$ versus junction temperature T_j

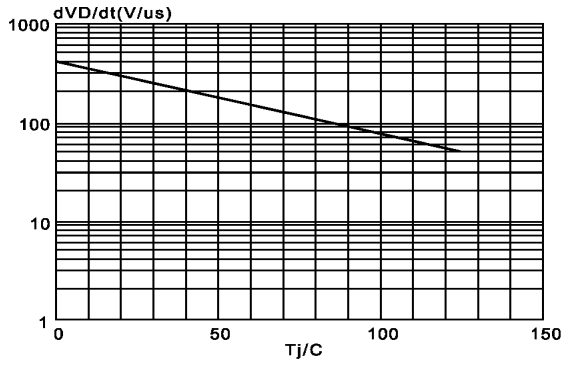


Fig.10. Typical, critical rate of rise off-state voltage, dV_D/dt versus junction temperature Tj

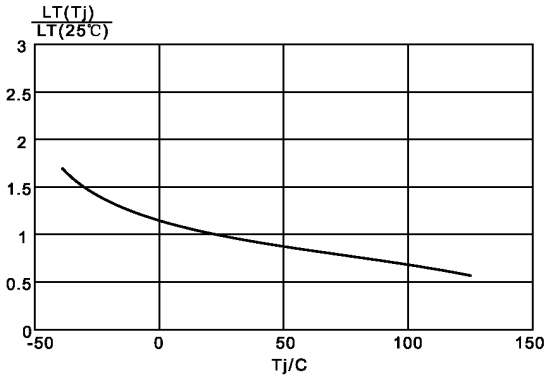


Fig.8. Normalized latching current $I_{GT}(T_j)/I_{GT}(25^oC)$, versus junction temperature T_j

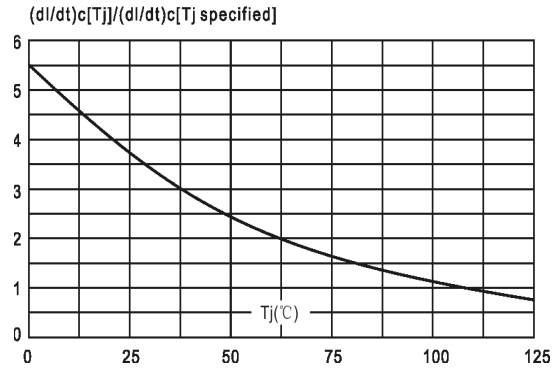


Fig.11. Relative variation of critical rate of decrease of main current versus junction temperature T_j

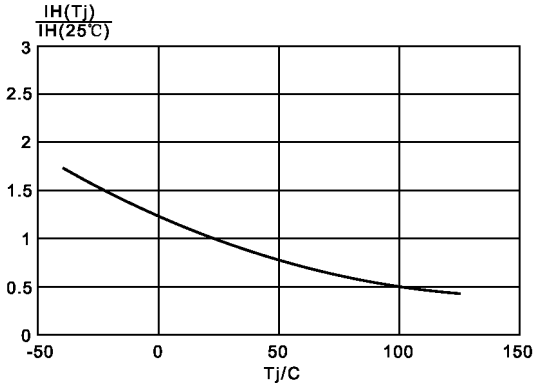


Fig.9. Normalized holding current $I_H(T_j)/I_H(25^oC)$, versus junction temperature T_j

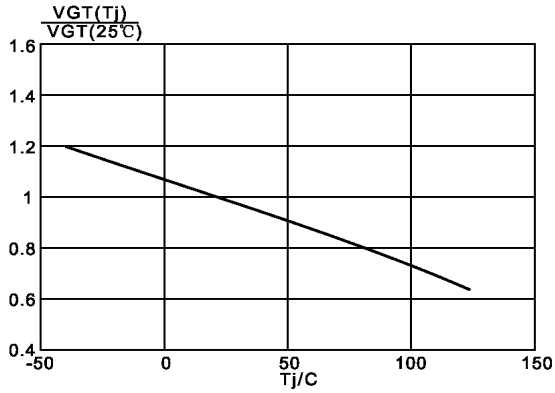
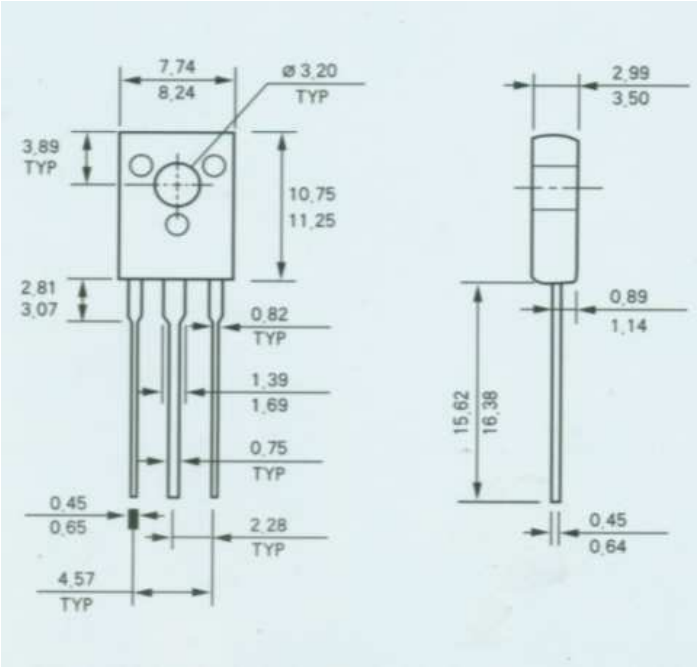


Fig.12. Normalized gate trigger voltage $V_{GT}(T_j)/I_{GT}(25^oC)$, versus junction temperature T_j

PACKAGE MECHANICAL DATA

TO-126



TO-126L(Plastic)