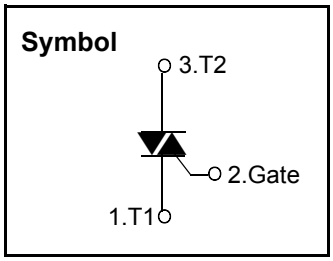
APOLLO ELECTRON™

TN1A60

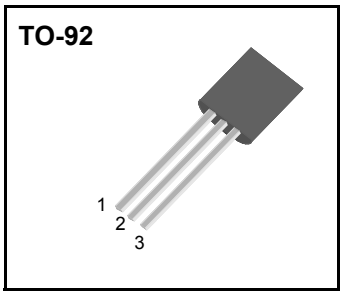
Sensitive Triac



V_{DRM} = 600V

$I_{T(RMS)}$ = 1A

I_{TSM} = 10A



Features

- Repetitive Peak Off-State Voltage : 600V
- R.M.S On-State Current ($I_{T(RMS)}$= 1 A)
- High Commutation dv/dt

General Description

This device is suitable for low power AC switching application, phase control application such as fan speed and temperature modulation control, lighting control and static switching relay where high sensitivity is required in all four quadrants.

This device may substitute for Z0107MA.

Absolute Maximum Ratings (Tj = 25°C unless otherwise specified)

Symbol	Parameter	Condition	Ratings	Units
V_{DRM}	Repetitive Peak Off-State Voltage	Sine wave, 50 to 60 Hz	600	V
$I_{T(RMS)}$	R.M.S On-State Current	Tj = 110°C, Full Sine Wave	1.0	A
I_{TSM}	Surge On-State Current	One Cycle, 50Hz/60Hz, Peak, Non-Repetitive	10	A
I^2t	I^2t for Fusing	tp = 10ms	0.41	A2s
P_{GM}	Peak Gate Power Dissipation		1	W
$P_{G(AV)}$	Average Gate Power Dissipation		0.1	W
I_{GM}	Peak Gate Current		1	A
T_J	Operating Junction Temperature		- 40 ~ 125	℃
T_{STG}	Storage Temperature		- 40 ~ 150	℃

Electrical Characteristics (Tj =25°C unless otherwise specified)

Symbol	Items		Conditions	Ratings			Unit
				Min.	Typ.	Max.	
I_{DRM}	Repetitive Peak Off-State Current		$V_D = V_{DRM}$, Single Phase, Half Wave	-	-	0.5	mA
V_{TM}	Peak On-State Voltage		I_{TM} = 1 A, tp=380μs	-	-	1.6	V
I^+_{GT1}	I	Gate Trigger Current	V_D = 12V, R_L=100 Ω	-	-	10	mA
I^-_{GT1}	II			-	-	10	
I^-_{GT3}	III			-	-	10	
I^+_{GT3}	IV			-	-	30	
V^+_{GT1}	I	Gate Trigger Voltage	V_D = 12V, R_L=100 Ω	-	-	1.8	V
V^-_{GT1}	II			-	-	1.8	
V^-_{GT3}	III			-	-	1.8	
V^+_{GT3}	IV			-	-	2.0	
V_{GD}	Non-Trigger Gate Voltage		V_D=1/2 V_{DRM}	0.1	-	-	V
dv/dt	Critical Rate of Rise Off-State Voltage		T_j = 110 °C V_D=2/3 V_{DRM}	5	-	-	V/μs
I_H	Holding Current		V_D=12V, I_T=0.1A	-	-	25	mA

Fig 1. Gate Characteristics

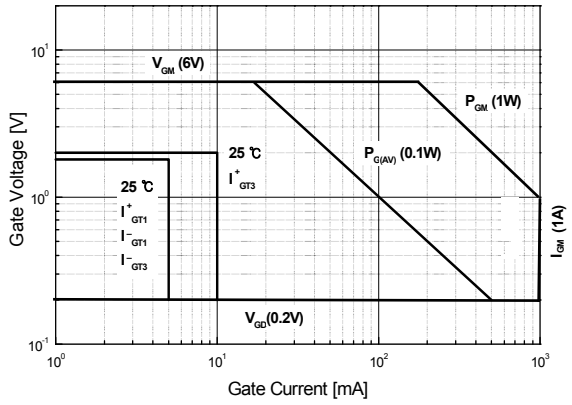


Fig 2. On-State Voltage

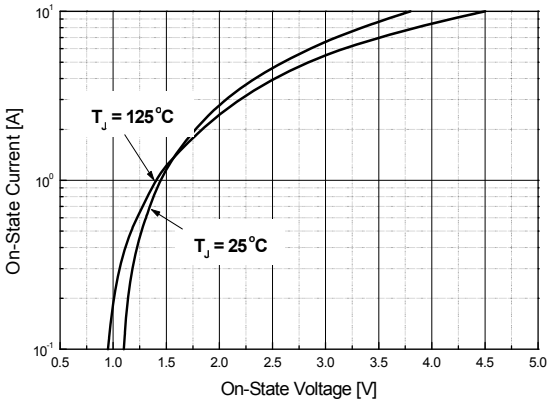


Fig 3. On State Current vs. Maximum Power Dissipation

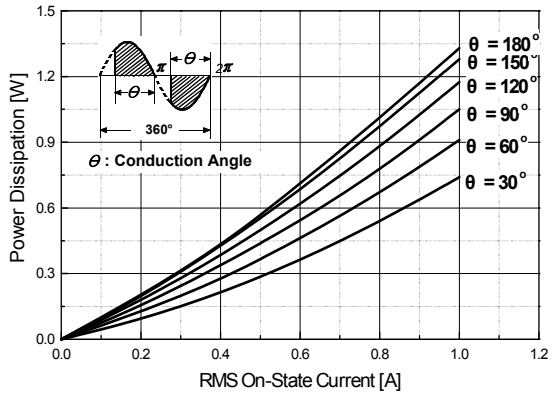


Fig 4. On State Current vs. Allowable Case Temperature

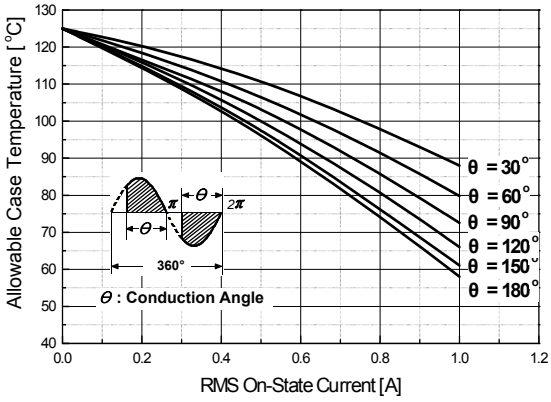


Fig 5. Surge On-State Current Rating (Non-Repetitive)

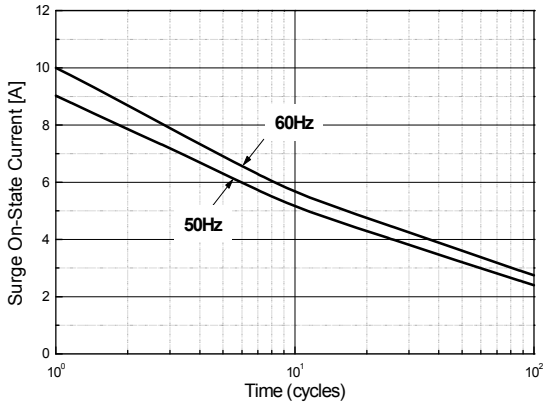


Fig 6. Gate Trigger Voltage vs. Junction Temperature

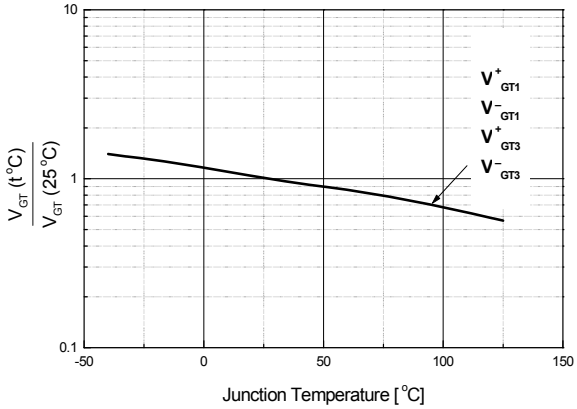


Fig 7. Gate Trigger Current vs. Junction Temperature

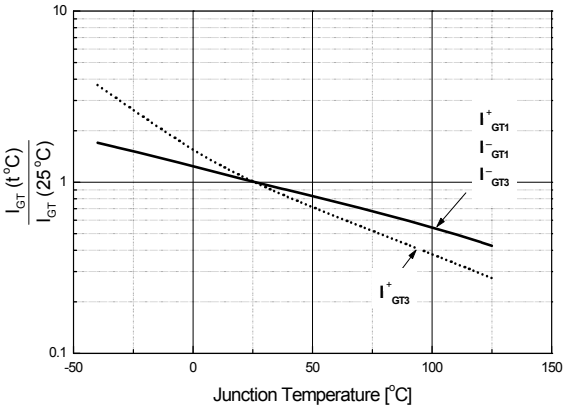
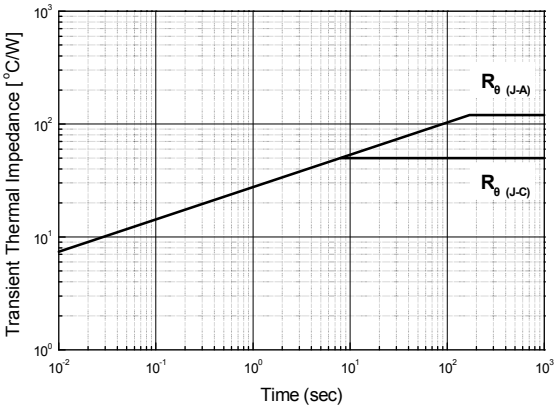


Fig 8. Transient Thermal Impedance



TO-92 Package Dimension

Dim.	mm			Inch		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A		4.2			0.165	
B			3.7			0.146
C	4.43		4.83	0.174		0.190
D	14.07		14.87	0.554		0.585
E			0.4			0.016
F	4.43		4.83	0.174		0.190
G			0.45			0.017
H		2.54			0.100	
I		2.54			0.100	
J	0.33		0.48	0.013		0.019