

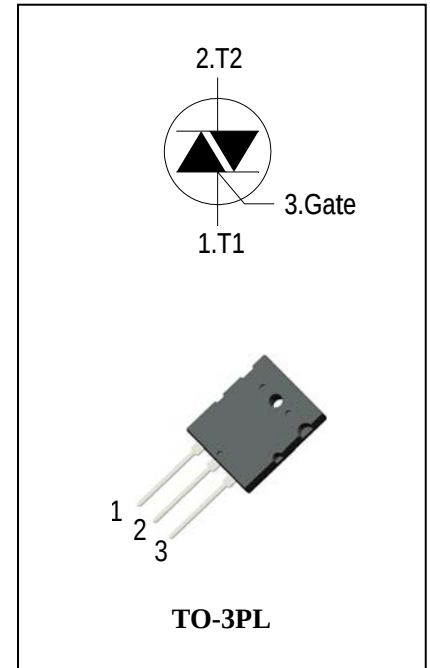
3 Quadrants Triacs

General Description

High current density due to mesa technology . the ADS60C triac series is suitable for general purpose AC switching. They can be used as an ON/OFF function in applications such as static relays, heating regulation, High power motor controls ,Rectifier-fed DC inductive loads e.g.DC motors and solenoids , motor speed controllers.

Features

- ◆ Repetitive Peak Off-State Voltage: 1000V/1200V/1600V
- ◆ R.M.S On-State Current ($I_{T(RMS)} = 60A$)
- ◆ High Commutation dv/dt
- ◆ These Devices are Pb-Free and are RoHS Compliant



Absolute Maximum Ratings

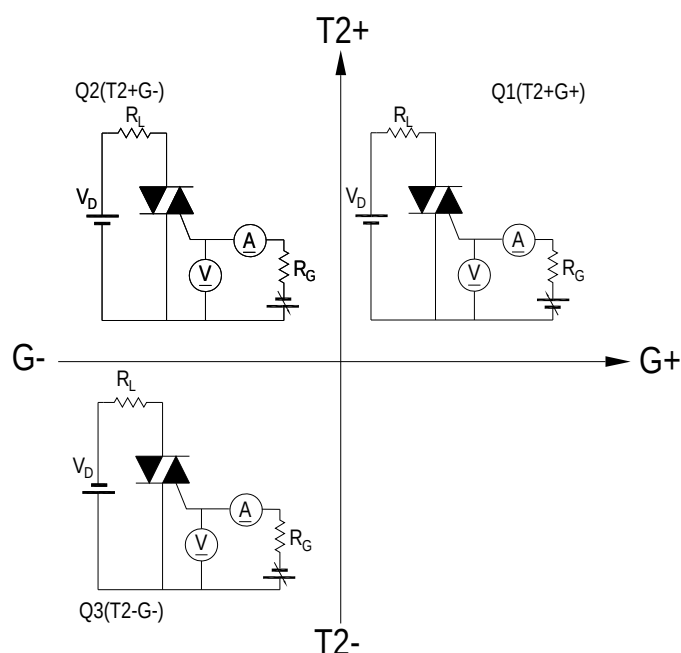
Symbol	Items	Conditions		Ratings	Unit
V_{DRM} V_{RRM}	Repetitive Peak Off-State Voltage	$T_j = 25^{\circ}C$	ADS60C100L	1000	V
			ADS60C120L	1200	V
			ADS60C160L	1600	V
$I_{T(RMS)}$	R.M.S On-State Current	$T_C = 75^{\circ}C$		60	A
I_{TSM}	Surge On-State Current	$t_p=20ms(50Hz)/t_p=16.7ms(60Hz)$		600/640	A
I^2t	I^2t for fusing	$t_p=10ms$		1800	A^2s
di/dt	Critical rate of rise of on-state current	$F = 120\text{ Hz}$ $T_j = 125^{\circ}C$ $I_G = 2 \times I_{GT}$, $t_r \leq 100\text{ ns}$		100	$A/\mu s$
I_{GM}	Peak Gate Current	$t_p = 20\text{ }\mu s$ $T_j = 125^{\circ}C$		8	A
$P_{G(AV)}$	Average Gate Power Dissipation($T_j=125^{\circ}C$)			2	W
P_{GM}	Peak Gate Power Dissipation($t_p=20\mu s, T_j=125^{\circ}C$)			10	W
T_j	Operating Junction Temperature			- 40 ~ 125	$^{\circ}C$
T_{STG}	Storage Temperature			- 40 ~ 150	$^{\circ}C$



Electrical Characteristics($T_j = 25^\circ\text{C}$ unless otherwise specified)

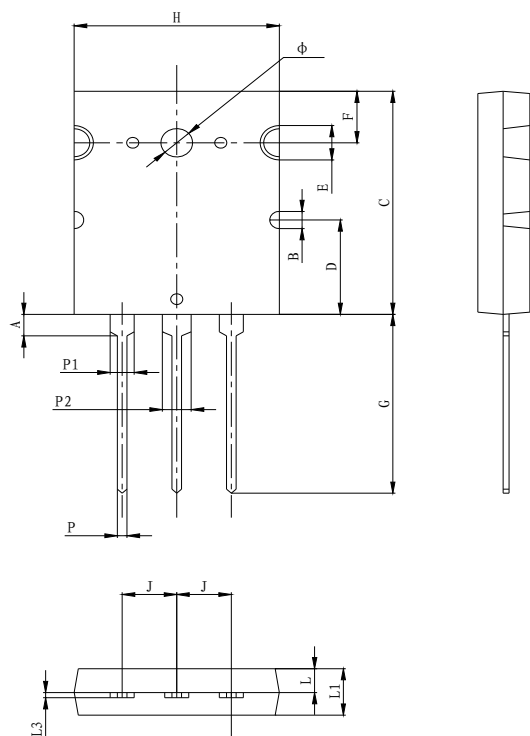
Symbol	Items		Conditions		ADS60C100L/120L/160L	Unit
I _{DRM}	Peak Forward Reverse Blocking Current		V _{DRM} = V _{RRM} , T _j = 25°C	Max.	50	uA
I _{RRM}			V _{DRM} = V _{RRM} , T _j = 125°C		8	mA
V _{TM}	Peak On-State Voltage		I _{TM} = 80A, t _p = 380 μs	Max.	1.75	V
V _{GD}	Q1-Q2-Q3	Non—Trigger Gate Voltage	V _D = V _{DRM} R _L = 3.3 kΩ T _j = 125°C	Min.	0.2	V
V _{GT}	Q1-Q2-Q3	Gate Trigger Voltage	V _D = 12V , R _L = 33Ω	Max.	1.3	V
I _{GT}	Q1-Q2-Q3	Gate Trigger Current		Max.	50	mA
I _H	Q1-Q2-Q3	Holding Current	I _T = 0.5A	Max.	75	mA
I _L	Q1-Q3	Latching Current	I _G = 1.2 I _{GT}	Max.	90	mA
	Q2				120	
dV/dt	Critical Rate of Rise of Off-State Voltage		V _D = 2/3V _{DRM} gate open T _j = 125°C	Min.	1000	V/μs
(dV/dt) _c	Critical Rate of Change of Commutating Voltage		(dI/dt) _c =-23A/ms T _j = 125°C	Min.	20	V/μs
R _{th(j-c)}	Junction to case (AC)			Max.	0.38	°C/W
R _{th(j-a)}	Junction to ambient			Max.	40	°C/W

FIG.1: Triac quadrant are defined and the gate trigger test circuit



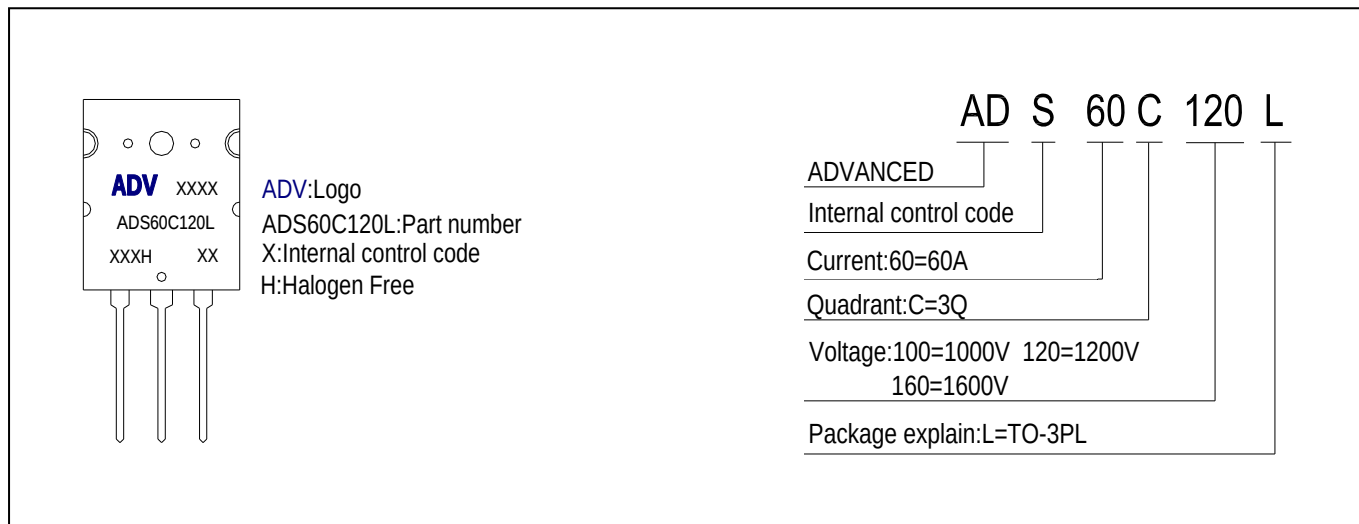
PACKAGE MECHANICAL DATA

TO-3PL Package Dimension



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	2.40TYP		0.095TYP	
B	1.92TYP		0.075TYP	
C	24.56	25.46	0.967	1.002
E	3.84TYP		0.151 TYP	
F	5.76TYP		0.227 TYP	
G	19.70	20.30	0.775	0.799
H		20.05		0.789
J	54.35	54.65	2.139	2.151
P1	2.40TYP		0.094 TYP	
P2	2.88TYP		0.113 TYP	
P	0.71	1.26	0.028	0.049
L1	2.67TYP		0.105	
L		5.20		0.204
L3	0.58TYP		0.022 TYP	
Φ	3.17TYP		0.124 TYP	

Making Diagram



Ordering information

Part number	Package	Marking	Packing	Quantity
ADS60C100L	TO-3PL	ADS60C100L	Tube	25pcs
ADS60C120L	TO-3PL	ADS60C120L	Tube	25pcs
ADS60C160L	TO-3PL	ADS60C160L	Tube	25pcs

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