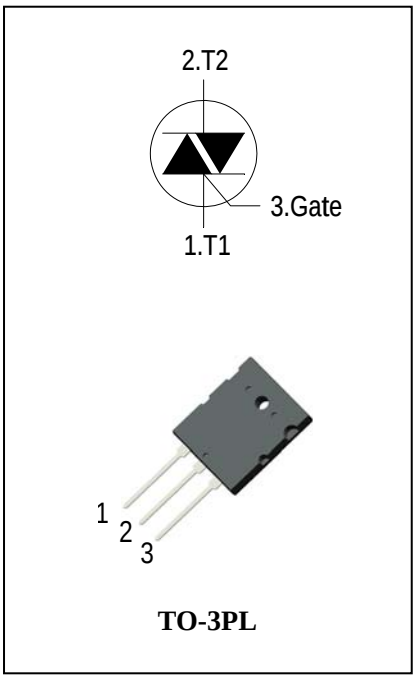
3 Quadrants Triacs

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.



TO-3PL

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	Tj = 25°C	ADS60C100L	1000	V
			ADS60C120L	1200	V
			ADS60C160L	1600	V
$I_{T(RMS)}$	R.M.S On-State Current	T_C = 75°C		60	A
I_{TSM}	Surge On-State Current	tp=20ms(50Hz)/tp=16.7ms(60Hz)		600/640	A
I^2t	I^2t for fusing	tp=10ms		1800	A^2s
dI/dt	Critical rate of rise of on-state current	F = 120 Hz Tj = 125°C I_G = 2 x I_{GT} , tr ≤ 100 ns		100	A/μs
I_{GM}	Peak Gate Current	tp = 20 μs Tj = 125°C		8	A
$P_{G(AV)}$	Average Gate Power Dissipation(Tj=125°C)			2	W
P_{GM}	Peak Gate Power Dissipation(tp=20us,Tj=125°C)			10	W
T_j	Operating Junction Temperature			- 40 ~ 125	°C
T_{STG}	Storage Temperature			- 40 ~ 150	°C

ADV

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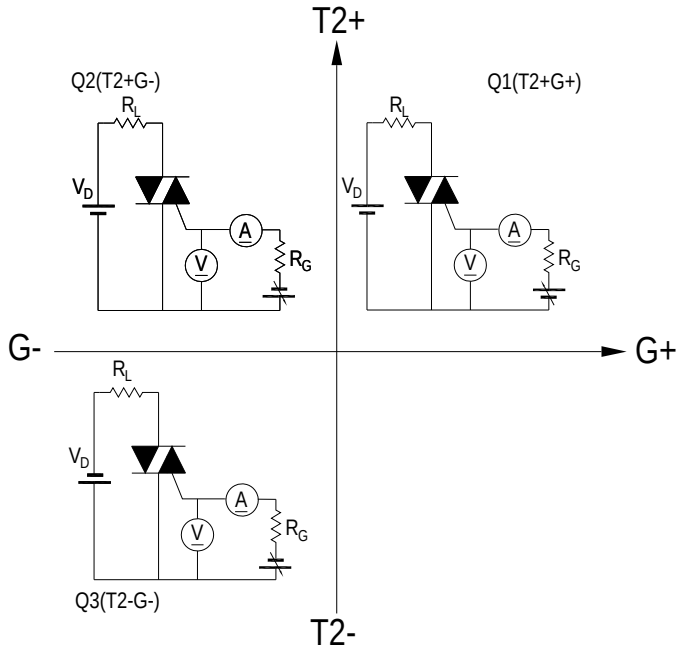
Electrical Characteristics(T_j = 25°C unless otherwise specified)

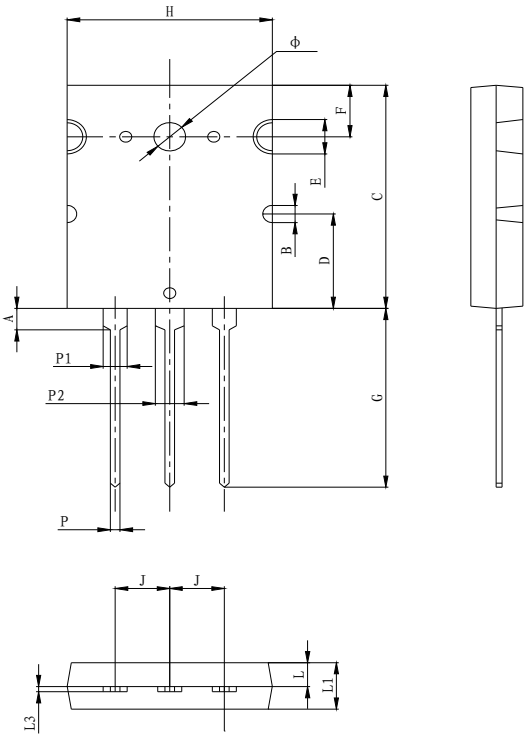
Symbol	Items		Conditions		ADS60C100L/120L/160L	Unit
I_{DRM}	Peak Forward Reverse Blocking Current		V_{DRM} = V_{RRM}, Tj = 25°C	Max.	50	uA
I_{RRM}			V_{DRM} = V_{RRM}, Tj = 125°C		8	mA
V_{TM}	Peak On-State Voltage		I_{TM} = 80A, t_p = 380 μs	Max.	1.75	V
V_{GD}	Q1-Q2-Q3	Non−Trigger Gate Voltage	V_D = V_{DRM} R_L = 3.3 kΩ Tj = 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 Tj = 125°C	Min.	1000	V/μs
(dV/dt)c	Critical Rate of Change of Commutating Voltage		(dI/dt)c=-23A/ms Tj = 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



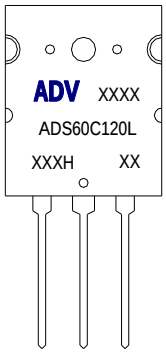
PACKAGE MECHANICAL DATA

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



ADV:Logo
ADS60C120L:Part number
X:Internal control code
H:Halogen Free

AD S 60 C 120 L

ADVANCED
Internal control code
Current:60=60A
Quadrant:C=3Q
Voltage:100=1000V 120=1200V
160=1600V
Package explain:L=TO-3PL

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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