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IS620-623, MOC3040-3042
Optically Coupled Bilateral Switch Light Activated Zero Voltage Crossing Triac

Circuit

Features

Photo-Triac Output

7500 V Isolation
400 or 600 Vpeak Blocking Voltage
Low Cost Dual-in-Line Package
Zero Voltage Crossing
U.L. Recognized, File No. E91231

Description

The IS620-623 and MOC304X series are optically coupled isolators consisting of a Gallium Arsenide infrared emitting diode coupled with a monolithic silicon detector performing the functions of a zero crossing bilateral triac mounted in a standard 6-pin dual-in-line package. Surface Mount Option Available.
All electrical parameters are 100% tested. Specifications are guaranteed to a cumulative 0.65% AQL.

Absolute Maximum Ratings (Ta=25°C)

Storage Temperature:	-40°C to +150°C
Operating Temperature:	-40°C to +70°C
Lead Soldering:	260°C for 10s, 1.6mm from case
Input-to-Output Isolation Voltage (Peak):	7500Vac (60Hz, for 5s)

Input Diode

Forward DC Current:	50mA
Reverse DC Voltage:	6V
Power Dissipation:	120mW
Derate Linearly:	1.33mW/°C above 25°C

Output Photo Triac

Off-State Output Terminal Voltage:	400V (MOC3040-3042) 600V (IS620-623)
RMS Forward Current:	100mA
Forward Current (Peak):	1.2A (p.w.=10ms)
Power Dissipation:	300mW
Derate Linearly:	4.0mW/°C above 25°C

Package

Total Power Dissipation: 330mW
Derate Linearly: 4.4mW/°C above 25°C

Electro-optical Characteristics (Ta=25°C)

MOC3040-3042: PBV=400V
IS620-623: PBV=600V

INPUT	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V_F	Forward Current	I_F=30mA			1.5	V
I_R	Reverse Current	V_R=6V			100	µA
OUTPUT PHOTO TRIAC						
I_{DRM1}	Peak Off-State Current	note 1, V_{DRM}=PBV			100	nA
V_{DRM}	Peak Blocking Voltage	I_{DRM1}=100nA	PBV			V
V_{TM}	On-State Voltage	I_{TM}=100mA (Peak)				
	IS62x			2.3	3.0	V
	MOC304x			2	2.5	V
dV/dt (C)	Critical Rate of Rise of Commutating Off-State Voltage			100		V/µs
COUPLED	**PARAMETER**	**CONDITIONS**	**MIN**	**TYP**	**MAX**	**UNIT**
I_{FT}	Input Current to Trigger	Main Terminal Voltage=3V, note 2				
	IS620, MOC3040				30	mA
	IS621, MOC3041				15	mA
	IS622, MOC3042				10	mA
	IS623				7	mA
	Holding Current, either direction			200		µA
	Input-Output Isolation Voltage		7500			Vac

V_{IH}	Inhibit Voltage	I_F=Rated I_{FT}; MT-1, MT-2 voltage above which device will not trigger		15	40	V
I_{DRM2}	Leakage Inhibited State	I_F=Rated I_{FT}, V_{DRM}=PBV, off-state				
	MOC3040, 3041			100	300	µA
	IS620-623, MOC3042				200	µA

Notes

1. Test voltage must be applied with dV/dt rating.
2. Guaranteed to trigger @ I_F value <= max I_{FT}. Recommended I_F lies between max I_{FT} and absolute max I_F

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