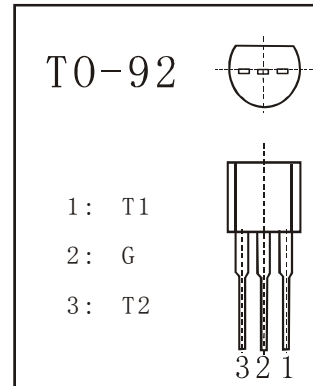


## Bidirectional Silicon Controlled Rectifiers —MBR97A6

### Features

- Bidirectional triggering
- High reverse voltage
- Low forward voltage drop
- Package: TO-92



### Absolute Rating (Ta= 25 °C)

Parameter	Symbol	Ratings	Unit
Peak Repetitive Off-State Voltage	$V_{DRM}$	600	V
Peak Repetitive Reverse Voltage	$V_{RRM}$	600	V
On-State Average Current	$I_T(AV)$	1	A
Peak Non-repetitive Surge Current	$I_{TSM}$	16	A
Gate Average Power	$T_j$	125	°C
Storage Temperature	$T_{stg}$	-40~125	°C

### Thermal performance

Parameter	Symbol	Conditions	Value	Unit
Thermal resistance junction to mounting base	$R_{thj-mb}$	Normal state	60	°C/W
Thermal resistance junction to ambient	$R_{thj-a}$		150	°C/W

**Electrical Characteristic** (Ta= 25°C unless otherwise noted)

Parameter	Symbol	Test conditions	Criteria			Unit	
			Min	Type	Max		
Peak On-State Voltage	$V_{TM}$	$I_T=2A$			1.7	V	
Peak Repetitive Off-State Current	$I_{DRM}$	$V_{DRM}=600V; R_{GK}=1K \Omega$			10	$\mu A$	
Holding current	$I_H$	$V_D=12V; I_{GT}=0.1A$			8	mA	
Latching current	$I_L$	$V_D=12V; I_{GT}=0.1A$		4	8	mA	
Critical Rate of Rise of On-State Current	$dI_T/dt$	$I_T=1.5A, I_G=0.2A, dI_G/dt=0.2 A/\mu S$			50	$A/\mu s$	
Critical Rate of Rise of Off-State Voltage	$dV_D/dt$	$V_{DM}=67\% V_{DRM}, R_{GK}=1K \Omega, T_j=125^\circ C$	5	15		$V/\mu s$	
Peak Gate Current	$I_{GM}$				2	A	
Peak Gate Voltage	$V_{GM}$				5	V	
Gate Trigger Current※	T <sub>2+</sub> G <sub>+</sub>	$I_{GT}$			6	mA	
	T <sub>2+</sub> G <sub>-</sub>				6		
	T <sub>2-</sub> G <sub>-</sub>				6		
	T <sub>2-</sub> G <sub>+</sub>				15		
Gate Trigger Voltage	T <sub>2+</sub> G <sub>+</sub>	$V_{GT}$	$V_D=12V$ $R_L=100 \Omega$		0.7	1.5	V
	T <sub>2+</sub> G <sub>-</sub>				0.7	1.5	
	T <sub>2-</sub> G <sub>-</sub>				0.7	1.5	
	T <sub>2-</sub> G <sub>+</sub>						
Leakage Current	$I_D$	$V_D=V_{DRM}$			0.1	0.5	mA

※ : The parameter is related to the operating ambient temperature