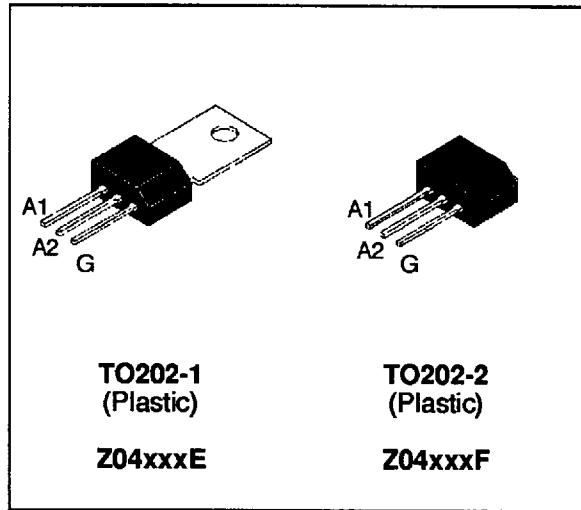


## SENSITIVE GATE TRIACS

### FEATURES

- $I_{T(RMS)} = 4A$
- $V_{DRM} = 400V$  to  $800V$
- $I_{GT} \leq 3mA$  to  $\leq 10mA$



### DESCRIPTION

The Z04xxxE/F series of triacs uses a high performance TOP GLASS PNPN technology. These parts are intended for general purpose applications where gate high sensitivity is required.

### ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value		Unit
$I_{T(RMS)}$	RMS on-state current (360° conduction angle)	Z04xxxE/F	$T_c = 75^\circ C$	4	A
		Z04xxxF	$T_a = 25^\circ C$	0.95	
$I_{TSM}$	Non repetitive surge peak on-state current ( $T_j$ initial = $25^\circ C$ )	$t_p = 8.3$ ms	22	A	
		$t_p = 10$ ms	20		
$I^2t$	$I^2t$ Value for fusing	$t_p = 10$ ms	2	$A^2s$	
$dI/dt$	Critical rate of rise of on-state current $I_G = 50$ mA $dI/dt = 0.1$ A/ $\mu s$ .	Repetitive $F = 50$ Hz	10	$A/\mu s$	
		Non Repetitive	50		
$T_{stg}$ $T_j$	Storage and operating junction temperature range	- 40, + 150 - 40, + 125		$^\circ C$	
$T_I$	Maximum lead temperature for soldering during 10s at 4.5mm from case	260		$^\circ C$	

Symbol	Parameter	Voltage				Unit
		D	M	S	N	
$V_{DRM}$ $V_{RRM}$	Repetitive peak off-state voltage $T_j = 125^\circ C$	400	600	700	800	V

## Z04xxxE/F

### THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
R <sub>th(j-a)</sub>	Junction to ambient	Z04xxxE	80
		Z04xxxF	100
R <sub>th(j-c)</sub>	Junction to case for D.C	10	°C/W
R <sub>th(j-c)</sub>	Junction to case for A.C 360° conduction angle (F=50Hz)	7.5	°C/W

### GATE CHARACTERISTICS (maximum values)

P<sub>G (AV)</sub> = 0.2 W P<sub>GM</sub> = 3 W (tp = 20 μs) I<sub>GM</sub> = 1.2 A (tp = 20 μs)

### ELECTRICAL CHARACTERISTICS

Symbol	Test Conditions	Quadrant		Sensitivity			Unit	
				02	05	09		
I <sub>GT</sub>	V <sub>D</sub> =12V (DC) R <sub>L</sub> =33Ω	T <sub>j</sub> =25°C	I-II-III-IV	MAX	3	5	10	mA
V <sub>GT</sub>	V <sub>D</sub> =12V (DC) R <sub>L</sub> =33Ω	T <sub>j</sub> =25°C	I-II-III-IV	MAX	1.5			V
V <sub>GD</sub>	V <sub>D</sub> =V <sub>DRM</sub> R <sub>L</sub> =3.3kΩ	T <sub>j</sub> =125°C	I-II-III-IV	MIN	0.2			V
t <sub>gt</sub>	V <sub>D</sub> =V <sub>DRM</sub> I <sub>G</sub> = 40mA I <sub>T</sub> = 5.5A dI <sub>G</sub> /dt = 0.5A/μs	T <sub>j</sub> = 25°C	I-II-III-IV	TYP	2			μs
I <sub>H</sub> *	I <sub>T</sub> = 50 mA Gate open	T <sub>j</sub> = 25°C		MAX	3	5	10	mA
I <sub>L</sub>	I <sub>G</sub> = 1.2 I <sub>GT</sub>	T <sub>j</sub> = 25°C	I-III-IV	TYP	3	5	10	mA
			II	TYP	6	10	20	mA
V <sub>TM</sub> *	I <sub>TM</sub> = 5.5A tp= 380μs	T <sub>j</sub> = 25°C		MAX	2			V
I <sub>DRM</sub> I <sub>RRM</sub>	V <sub>D</sub> = V <sub>DRM</sub> V <sub>R</sub> = V <sub>RRM</sub>	T <sub>j</sub> = 25°C		MAX	5			μA
		T <sub>j</sub> = 110°C		MAX	200			
dV/dt *	V <sub>D</sub> =67%V <sub>DRM</sub> Gate open	T <sub>j</sub> = 110°C		MIN	10	20	100	V/μs
				TYP	20	50	150	
(dV/dt)c *	(dI/dt)c = 0.55 A/ms	T <sub>j</sub> = 110°C		MIN	1	1	2	V/μs
	(dI/dt)c = 1.8 A/ms			TYP	1	1	2	

\* For either polarity of electrode A<sub>2</sub> voltage with reference to electrode A<sub>1</sub>

### ORDERING INFORMATION

