



## SM2LZ47

Preliminary

TRIAC

### 2A TRIACS

#### DESCRIPTION

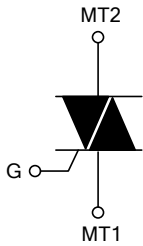
The UTC **SM2LZ47** is a 2A Triac, it uses UTC's advanced technology to provide customers with high critical rate of rise of off-state voltage at communication, high repetitive peak off-state voltage and high R.M.S. on-state current, etc.

The UTC **SM2LZ47** is suitable for AC power control applications, etc.

#### FEATURES

- \* High R.M.S. On-State Current: 2A
- \* High Repetitive Peak Off-State Voltage: 800V
- \* High Critical Rate of Rise of Off-State Voltage at Communication (Min.=5V/μs)

#### SYMBOL



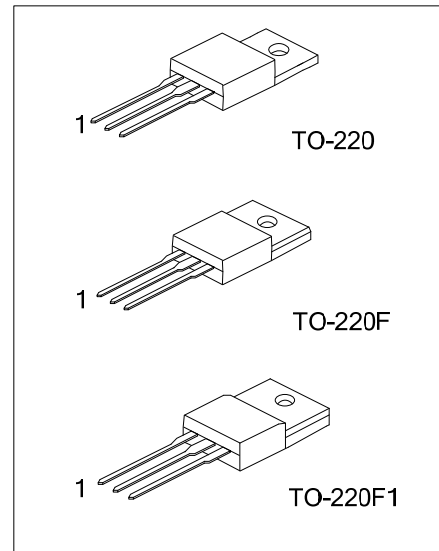
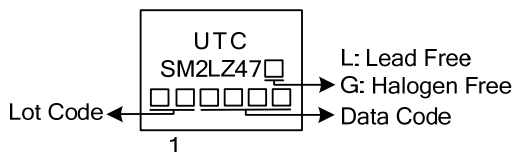
#### ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
SM2LZ47L-TA3T	SM2LZ47G-TA3-T	TO-220	MT1	MT2	G	Tube
SM2LZ47L-TF1-T	SM2LZ47G-TF1-T	TO-220F1	MT1	MT2	G	Tube
SM2LZ47L-TF3-T	SM2LZ47G-TF3-T	TO-220F	MT1	MT2	G	Tube

Note: Pin Assignment: MT1: MT1 MT2: MT2 G: GATE

<p>SM2LZ47L-TA3-T</p> <p>(1) Packing Type (2) Package Type (3) Green Package</p>	<p>(1) T: Tube (2) TA3: TO-220, TF3: TO-220F, TF1: TO-220F1 (3) L: Lead Free, G: Halogen Free and Lead Free</p>
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#### MARKING



### ■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
Repetitive Peak Off-State Voltages	$V_{DRM}$	800	V
R. M. S On-State Current (Full Sine Waveform)	$I_{T(RMS)}$	2	A
Non Repetitive Peak One Cycle Surge On-State Current	50Hz	8	A
	60Hz	8.8	A
$I^2t$ Limit Value	$I^2t$	0.32	$A^2s$
Critical Rate of Rise of On-State Current (Note 1)	$di/dt$	50	$A/\mu s$
Peak Gate Power Dissipation	$P_{GM}$	3	W
Average Gate Power Dissipation	$P_{G(AV)}$	0.3	W
Peak Gate Voltage	$V_{FGM}$	10	V
Peak Gate Current	$I_{GM}$	1.6	A
Isolation Voltage (AC, $t=1min.$ )	$V_{ISOL}$	1500	V
Junction Temperature	$T_J$	-40~125	$^{\circ}C$
Storage Temperature	$T_{STG}$	-40~125	$^{\circ}C$

Notes: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

2.  $di/dt$  test condition ;  $V_{DRM}=400V$ ,  $I_{TM} \leq 3A$ ,  $t_{gw} \geq 0\mu s$ ,  $t_{gr} \leq 250ns$ ,  $i_{gp}=I_{GT} \times 2.0$

### ■ THERMAL RESISTANCES

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient (AC)	$\theta_{JA}$	58	$^{\circ}C/W$

### ■ ELECTRICAL CHARACTERISTICS ( $T_A=25^{\circ}C$ )

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Repetitive Peak Off-State Current	$I_{DRM}$	$V_{DRM}=800V$			20	$\mu A$
Gate Trigger Voltage	$V_{GT}$	$V_D=12V$ , $R_L=20\Omega$	T2+ G+		1.5	V
			T2+ G-		1.5	
			T2- G-		1.5	
Gate Trigger Current	$I_{GT}$	$V_D=12V$ , $R_L=20\Omega$	T2+ G+		10	mA
			T2+ G-		10	
			T2- G-		10	
Peak On-State Voltage	$V_{TM}$	$I_{TM}=3A$			2.0	V
Gate Non-Trigger Voltage	$V_{GD}$	$V_D=800V$ , $T_C=125^{\circ}C$	0.2			V
Holding Current	$I_H$	$V_D=12V$ , $I_{TM}=1A$			10	mA
Critical Rate of Rise of Off-State Voltage	$dV/dt$	$V_{DRM}=800V$ , $T_J=125^{\circ}C$ , Exponential Rise		500		$V/\mu s$
Critical Rate of Rise of Off-State Voltage at Communication	$(dV/dt)_c$	$V_{DRM}=400V$ , $T_J=125^{\circ}C$ , $(di/dt)_c=-0.5A/ms$	5			$V/\mu s$

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