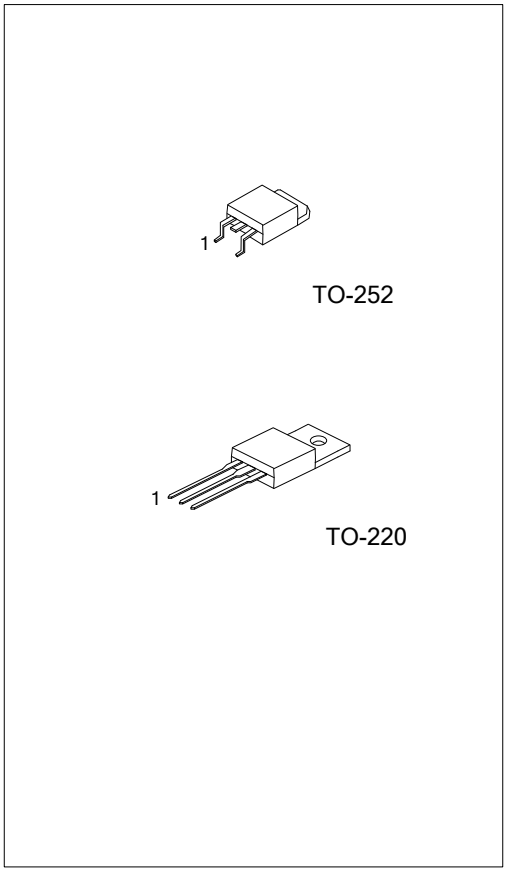
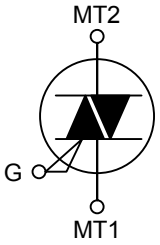
TRIACS



■ DESCRIPTION

Passivated triacs in a plastic envelope, suitable for surface mounting, intended for use in applications requiring high bidirectional transient and blocking voltage capability and high thermal cycling performance. Typical applications include motor control, industrial and domestic lighting, heating and static switching.

■ SYMBOL



■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UT136FL-x-TA3-R	UT136FP-x-TA3-R	TO-220	MT1	MT2	G	Tube
UT136GL-x-TA3-R	UT136GP-x-TA3-R	TO-220	MT1	MT2	G	Tube
UT136FL-x-TN3-R	UT136FP-x-TN3-R	TO-252	MT1	MT2	G	Tape Reel
UT136GL-x-TN3-R	UT136GP-x-TN3-R	TO-252	MT1	MT2	G	Tape Reel

UT136FL- x -TA3-T
(1)Packing Type
(2)Package Type
(3)Peak Voltage
(4)Lead Free

(1) R:Tape Reel, T: Tube
(2) TA3: TO-220, TN3: TO-252
(3) 5: 500V, 6: 600V, 8: 800V
(4) P:Halogen Free, L: Lead Free

■ ABSOLUTE MAXIMUM RATINGS

PARAMETER		SYMBOL	RATINGS	UNIT
Repetitive Peak Off-State Voltages	UT136F/G-5	V_{DRM}	500 (Note 2)	V
	UT136F/G-6		600 (Note 2)	
	UT136F/G-8		800	
RMS On-State Current Full Sine Wave, T_{mb}≤107°C		$I_{T(RMS)}$	4	A
Non-Repetitive Peak On-State Current (Full Sine Wave, T_J=25°C Prior To Surge)	t = 20ms	I_{TSM}	25	A
	t = 16.7 ms		27	
I^2t For Fusing (t =10ms)		I^2t	3.1	A^2s
Repetitive Rate Of Rise Of On-State Current After Triggering I_{TM} =6A, I_G =0.2A, d_{IG}/dt=0.2A/μs	T2+ G+	dI_T/dt	50	A/μs
	T2+ G-		50	
	T2- G-		50	
	T2- G+		10	
Peak Gate Voltage		V_{GM}	5	V
Peak Gate Current		I_{GM}	2	A
Peak Gate Power		P_{GM}	5	W
Average Gate Power (Over Any 20ms Period)		$P_{G(AV)}$	0.5	W
Junction Temperature		T_J	125	°C
Storage Temperature		T_{STG}	-40 ~ +150	°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. Although not recommended, off-state voltages up to 800V may be applied without damage, but the traic may switch to the on-state. The rate of rise of current should not exceed 3A/μs.

■ THERMAL DATA

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	TO-220	θ_{JA}	60	K/W
	TO-252		75	

■ STATIC CHARACTERISTICS (T_J=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS		MIN	TYP	MAX		UNIT
						UT136F	UT136G	
Gate Trigger Current	I_{GT}	V_D=12V, I_T=0.1A	T2+G+		5	25	50	mA
			T2+G-		8	25	50	
			T2-G-		11	25	50	
			T2-G+		30	70	100	
Latching Current	I_L	V_D=12V, I_{GT}=0.1A	T2+G+		7	20	30	mA
			T2+G-		16	30	45	
			T2-G-		5	20	30	
			T2-G+		7	30	45	
Holding Current	I_H	V_D=12V, I_{GT}=0.1A			5	15	30	mA
On-State Voltage	V_T	I_T=5A			1.4	1.70		V
Gate Trigger Voltage	V_{GT}	V_D=12V, I_T=0.1A			0.7	1.5		V
		V_D=400V, I_T=0.1A, T_J=125°C		0.25	0.4			V
Off-State Leakage Current	I_D	V_D=$V_{DRM(max)}$, T_J=125°C			0.1	0.5		mA

■ DYNAMIC CHARACTERISTICS (T_J=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN		TYP	MAX	UNIT
			UT136F	UT136G			
Critical Rate Of Rise Of Off-State Voltage	dV_D/dt	V_{DM}=67% $V_{DRM(max)}$, T_J=125°C, exponential waveform, gate open circuit	50	200	250		V/μs
Critical Rate Of Change Of Commutating Voltage	dV_{com}/dt	V_{DM}=400V, T_J=95°C, $I_{T(RMS)}$=4A, dI_{com}/dt=1.8A/ms, gate open circuit		10	50		V/μs
Gate Controlled Turn-On Time	t_{gt}	I_{TM}=6A, V_D=$V_{DRM(max)}$, I_G=0.1A, dI_G/dt=5A/μs			2		μs