

Pb Free Plating Product

TUR1620U thru TUR16120U



16.0 Ampere Heatsink Single Positive Type Ultra Fast Recovery Rectifier Diode

Features	TO-220AC(TO-220-2L)	Unit:inch(mm)
※ ThinkSemi latest&matured process FRED/FRD ※ Low forward voltage drop ※ High current capability ※ Low reverse leakage current ※ High surge current capability	The drawing shows the mechanical specifications of the TO-220AC(TO-220-2L) package. It includes dimensions for the case width, height, and terminal positions. Key dimensions include: case width .419 (10.66) inches, case height .387 (9.85) inches, terminal pitch .139 (3.53) inches, terminal width .260 (6.65) inches, and terminal spacing .548 (13.93) inches. The drawing also shows the internal configuration for both positive and negative types, with the positive type having a suffix 'U' and the negative type having a suffix 'UR'.	
Application		
※ Automotive Inverters and Solar Inverters ※ Car Audio Amplifiers and Sound Device Systems ※ Plating Power Supply, Motor Control, UPS and SMPS etc.		
Mechanical Data		
※ Case: TO-220AC(TO-220-2L) with heat sink package ※ Epoxy: UL 94V-0 rate flame retardant ※ Terminals: Solderable per MIL-STD-202 method 208 ※ Polarity: As marked on diode body ※ Mounting position: Any ※ Weight: 2.0 gram approximately		

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

PARAMETER	SYMBOL	TUR1620U	TUR1640U	TUR1660U	TUR1680U	TUR16100U	TUR16120U	UNIT
Maximum Recurrent Peak Reverse Voltage	VRRM	200	400	600	800	1000	1200	V
Maximum RMS Voltage	VRMS	140	280	420	560	700	840	V
Maximum DC Blocking Voltage	VDC	200	400	600	800	1000	1200	V
Maximum Average Forward Rectified Current TC=125℃ (Total Device 16.0A)	IF(AV)	16.0						A
Peak Forward Surge Current, 8.3ms single Half sine-wave superimposed on rated load (JEDEC method)(Per Diode/Per Leg)	IFSM	320						A
Maximum Instantaneous Forward Voltage @16.0A(Per Diode)	VF (Typical)	0.85-0.95	1.00-1.25	1.25-1.50	1.50-1.70			V
Maximum DC Reverse Current @TJ=25℃ At Rated DC Blocking Voltage @TJ=125℃	IR	1.0 100						μA μA
Maximum Reverse Recovery Time (Note1)	Trr	15-25			25-35			nS
Typical Junction Capacitance (Note 2)	CJ	160						pF
Typical Thermal Resistance (Note 3)	RθJC	1.5						℃/W
Operating Junction and Storage Temperature Range	TJ,TSTG	-55 to +175						℃

Note:(1)Reverse recovery test conditions IF = 0.5A, IR = 1.0A, Irr = 0.25A.

Note:(2)Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts DC.

Note:(3)Thermal Resistance junction to case.

FIG.1 - FORWARD CURRENT DERATING CURVE

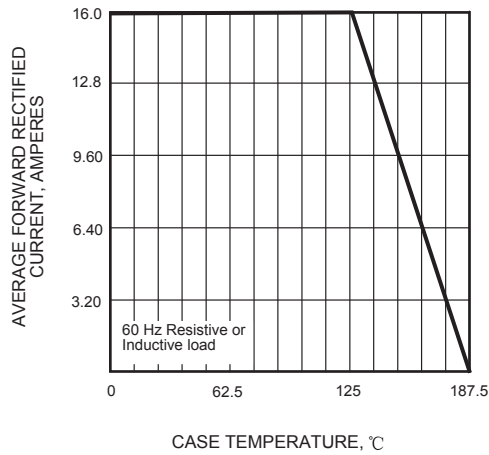


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

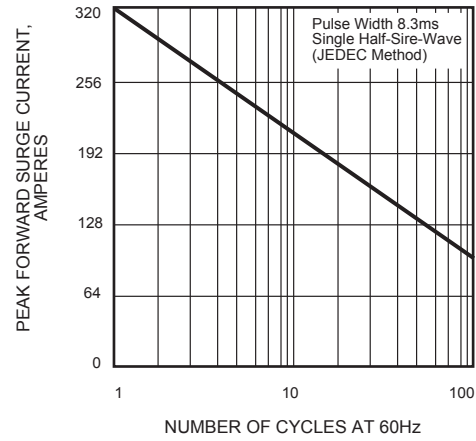


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

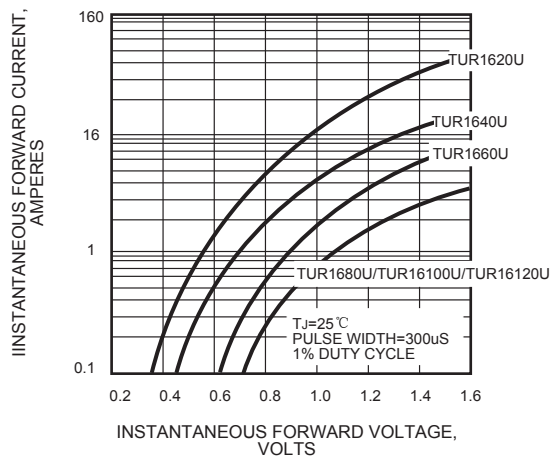


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

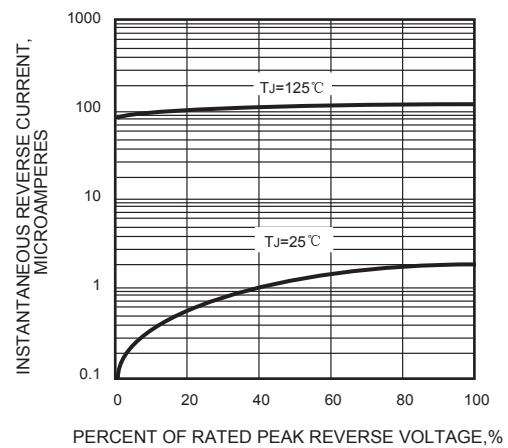


FIG.5 - TYPICAL JUNCTION CAPACITANCE

