

Pb Free Plating Product

TURB3020CTD thru TURB30120CTD



30.0 Ampere Surface Mount Dual Doubler Polarity Ultra Fast Recovery Rectifiers

Features	TO-263AB/D2PAK Unit:inch(mm)
※ ThinkSemi latest&matured process FRD/FRED ※ Low forward voltage drop ※ High current capability ※ Low reverse leakage current ※ High surge current capability	
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: Surface Mount TO-263AB/D2PAK 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	① ② ③ Case Positive Common Cathode Suffix "CTG" ① ② ③ Case Negative Common Anode Suffix "CTA" ① ② ③ Case Doubler Doubler Polarity Suffix "CTD" ① ② ③ Case Series Series Connection Suffix "CTS"

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	TURB3020CTD	TURB3040CTD	TURB3060CTD	TURB3080CTD	TURB30100CTD	TURB30120CTD	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 2x15.0A=30.0A)	IF(AV)	30.0						A
Peak Forward Surge Current, 8.3ms single Half sine-wave superimposed on rated load (JEDEC method)(Per Diode/Per Leg)	IFSM	300						A
Maximum Instantaneous Forward Voltage @15.0A(Per Diode/Per Leg)	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	25-50			50-75			nS
Typical Junction Capacitance (Note 2)	CJ	150						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

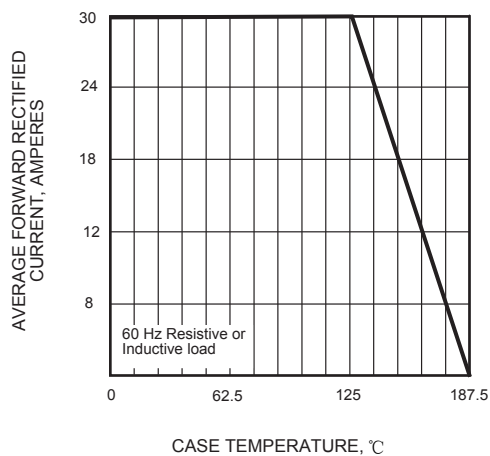


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

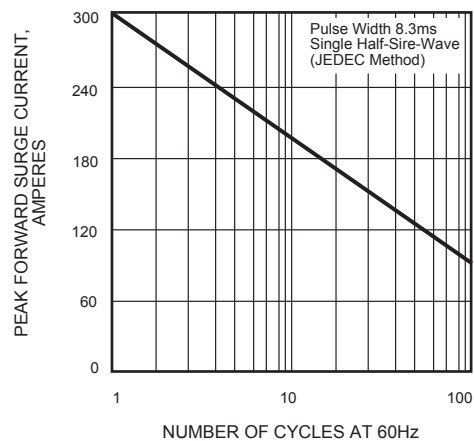


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

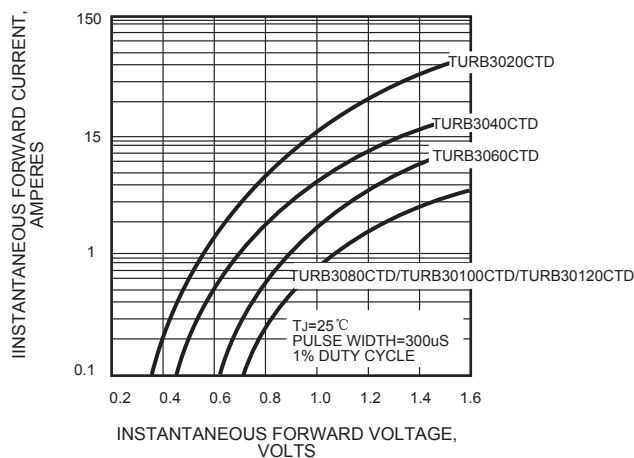


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

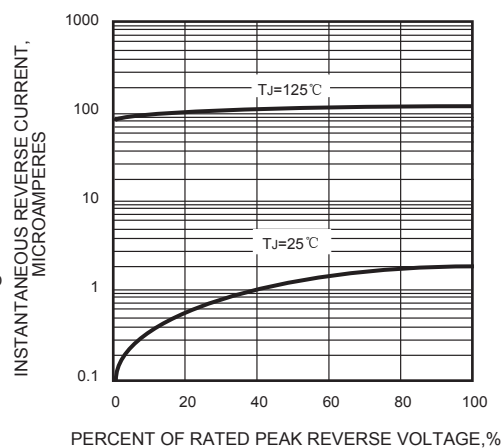


FIG.5 - TYPICAL JUNCTION CAPACITANCE

