

Pb Free Plating Product

U12C20D/U12C40D/U12C60D



12.0 Ampere Dual Doubler Polarity Ultra Fast Recovery Rectifiers

Features	TO-220AB(TO-220-3L)	Unit:inch(mm)
※ Fast switching for high efficiency ※ 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: Heatsink TO-220AB ※ 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	U12C20C U12C20A U12C20D U12C20S	U12C40C U12C40A U12C40D U12C40S	U12C60C U12C60A U12C60D U12C60S	UNIT
Maximum Recurrent Peak Reverse Voltage	VRRM	200	400	600	V
Maximum RMS Voltage	VRMS	140	280	420	V
Maximum DC Blocking Voltage	VDC	200	400	600	V
Maximum Average Forward Rectified Current Tc=100°C (Total Device 2x6.0A=12.0A)	IF(AV)	12.0			A
Peak Forward Surge Current, 8.3ms single Half sine-wave superimposed on rated load (JEDEC method)	IFSM	100			A
Maximum Instantaneous Forward Voltage @6.0A (Per Diode/Per Leg)	VF	0.98	1.3	1.7	V
Maximum DC Reverse Current @TJ=25°C At Rated DC Blocking Voltage @TJ=125°C	IR	5.0 100			μA μA
Maximum Reverse Recovery Time (Note1)	Trr	35			nS
Typical Junction Capacitance (Note 2)	CJ	65			pF
Typical Thermal Resistance (Note 3)	RθJC	1.5			°C/W
Operating Junction and Storage Temperature Range	TJ,TSTG	-55 to +150			°C

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

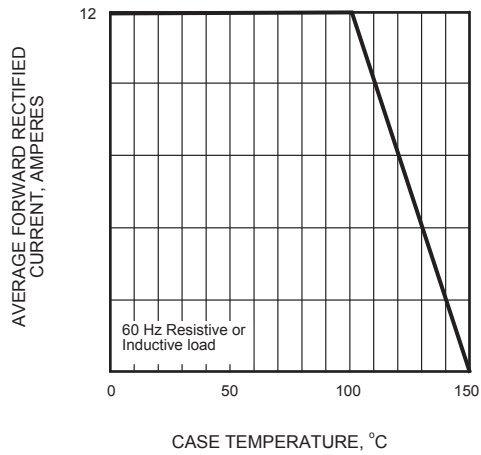


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

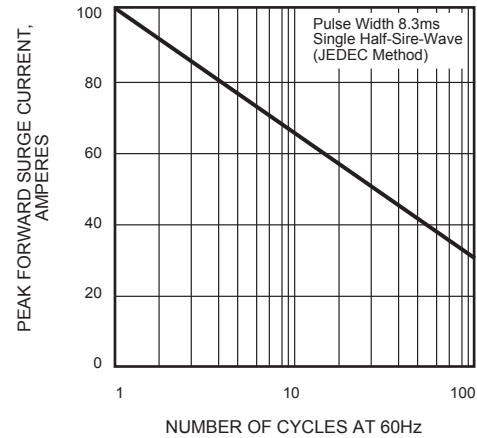


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

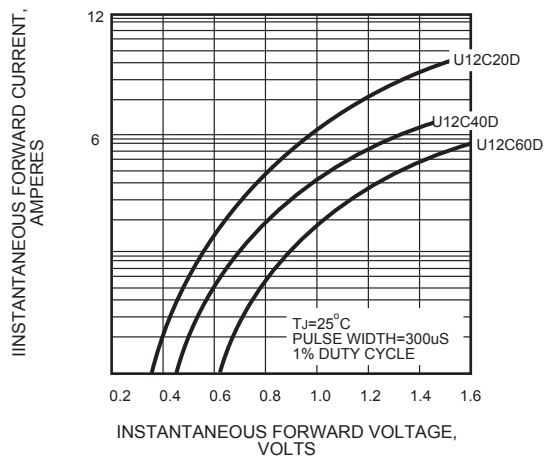


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

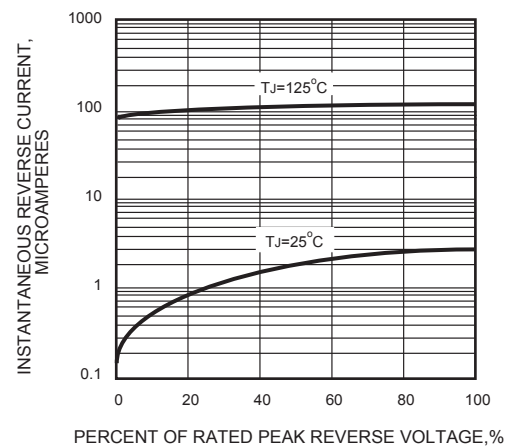


FIG.5 - TYPICAL JUNCTION CAPACITANCE

