

Pb Free Plating Product

U30D20S/U30D30S/U30D40S/U30D50S/U30D60S



30.0Ampere Heat Sink Dual Series Connection Ultra Fast Recovery Half Bridge Rectifiers

Features

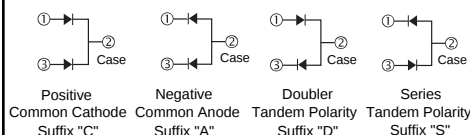
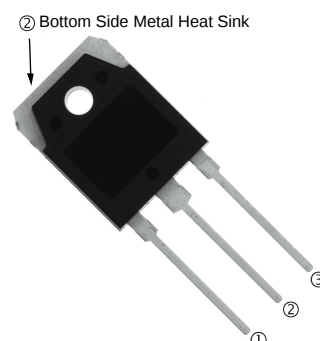
- * Fast switching for high efficiency
- * Low forward voltage drop
- * High current capability
- * Low reverse leakage current
- * High surge current capability

Application

- * Automotive Inverters and Solar Inverters
- * Plating Power Supply, Motor Control, SMPS and UPS
- * Car Audio Amplifiers and Sound Device Systems

Mechanical Data

- * Case: Heatsink TO-3PN open metal 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: 0.65 gram approximately

TO-3PN**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%.

	SYMBOL	U30D20S	U30D30S U30D40S	U30D50S U30D60S	UNIT
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	200	400	600	V
Maximum RMS Voltage	V _{RMS}	140	280	420	V
Maximum DC Blocking Voltage	V _{DC}	200	400	600	V
Maximum Average Forward Rectified Current T _c =125°C (Total Device 2x15A=30A)	I _{F(AV)}	30.0			A
Peak Forward Surge Current, 8.3ms single Half sine-wave superimposed on rated load (JEDEC method)	I _{FSM}	300			A
Maximum Instantaneous Forward Voltage @ 15.0 A (Per Diode/Per Leg)	V _F	0.98	1.3	1.7	V
Maximum DC Reverse Current @T _J =25°C At Rated DC Blocking Voltage @T _J =125°C	I _R	10 500			uA uA
Maximum Reverse Recovery Time (Note 1)	T _{rr}	35-50			nS
Typical junction Capacitance (Note 2)	C _J	150			pF
Operating Junction and Storage Temperature Range	T _J , T _{STG}	-55 to +150			°C

NOTES : (1) Reverse recovery test conditions I_F = 0.5A I_R = 1.0A I_{rr} = 0.25A.

(2) Thermal Resistance junction to terminal.

(3) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts DC.

FIG.1 - FORWARD CURRENT DERATING CURVE

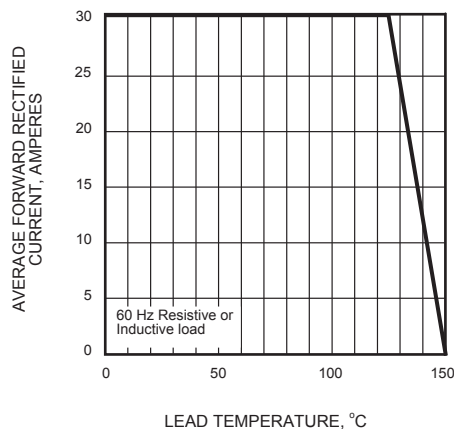


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

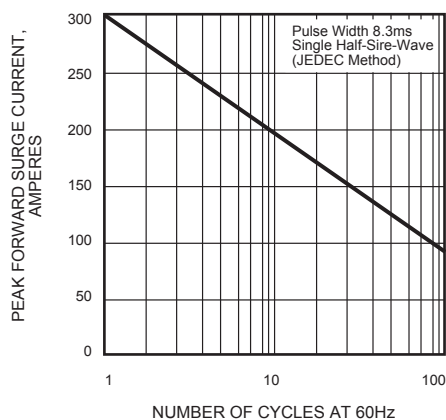


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

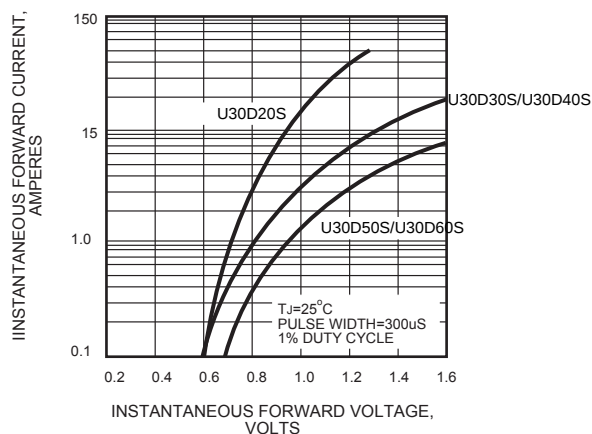


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

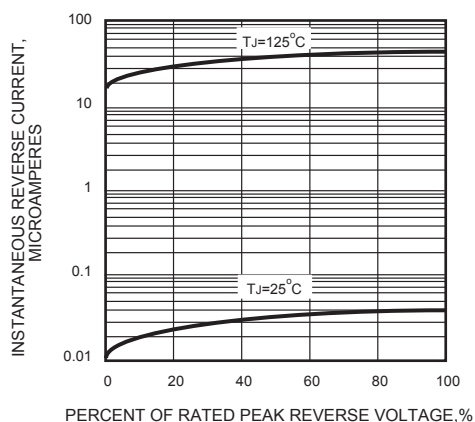
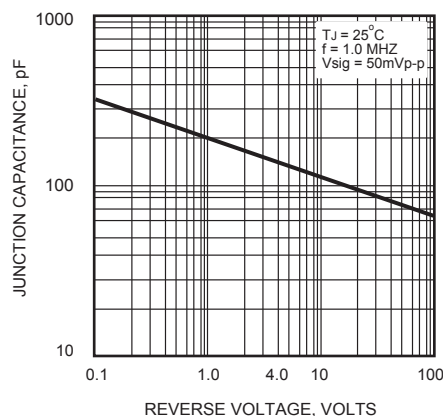
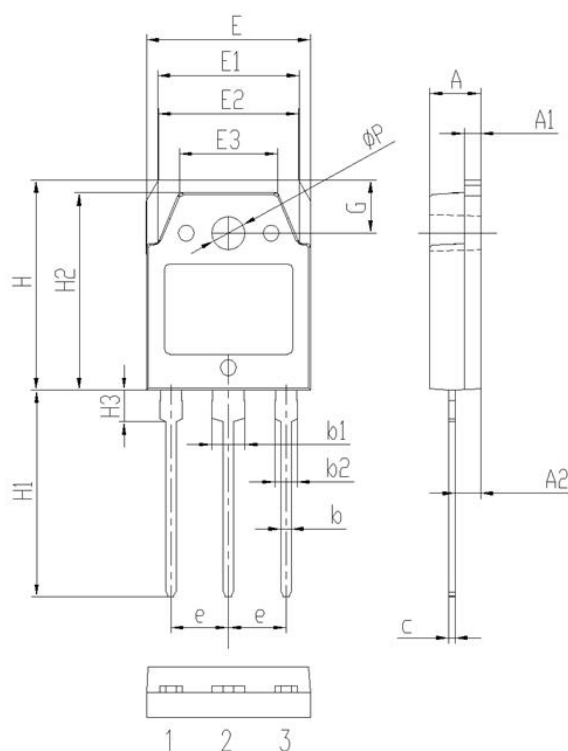


FIG.5 - TYPICAL JUNCTION CAPACITANCE



Package Information

TO-3PN Package Outline



Symbol	Dimensions(millimeters)	
	Min.	Max.
A	4.60	5.00
A1	1.50	2.00
A2	2.20	2.60
b	0.80	1.20
b1	2.90	3.30
b2	1.90	2.30
c	0.40	0.80
e	5.25	5.65
E	15.3	15.7
E1	13.2	13.6
E2	13.1	13.5
E3	9.10	9.50
H	19.7	20.1
H1	19.1	20.1
H2	18.3	18.7
H3	2.80	3.20
G	4.80	5.20
ΦP	3.00	3.40