THINKI SEMICONDUCTOR ®

Pb Free Plating Product

U20D20C/U20D30C/U20D40C/U20D50C/U20D60C RoHS Pb

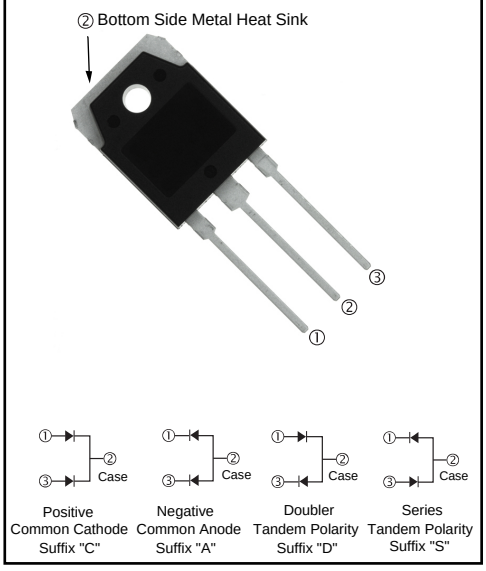
20.0 Ampere Heatsink Dual Common Cathode Ultra Fast Recovery Rectifiers

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: 0.61 gram approximately

TO-3PN



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25℃ ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	SYMBOL	U20D20C	U20D30C U20D40C	U20D50C U20D60C	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℃ (Total Device 2x10A=20A)	$I_{F(AV)}$	20.0			A
Peak Forward Surge Current, 8.3ms single Half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	200			A
Maximum Instantaneous Forward Voltage @ 10.0 A (Per Diode/Per Leg)	V_F	0.98	1.3	1.7	V
Maximum DC Reverse Current @T_J=25℃ At Rated DC Blocking Voltage @T_J=125℃	I_R	5.0 100			μA μA
Maximum Reverse Recovery Time (Note 1)	Trr	35			nS
Typical junction Capacitance (Note 2)	C_J	120	70		pF
Typical Thermal Resistance (Note 3)	$R_{\theta JC}$	0.85			℃/W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to + 150			℃

NOTES : (1) Reverse recovery test conditions IF= 0.5A, R= 1.0A, Irr = 0.25A.
(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts DC.
(3) Thermal Resistance junction to case.

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FIG.1 - FORWARD CURRENT DERATING CURVE

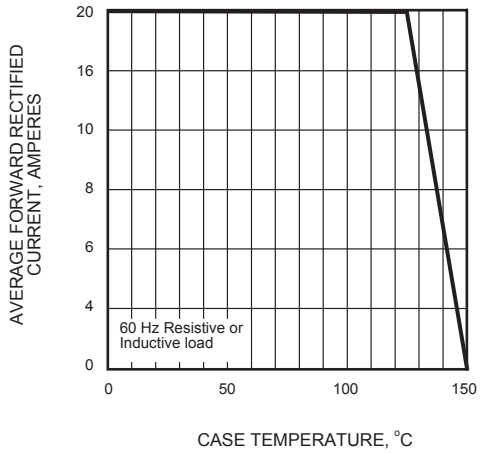


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

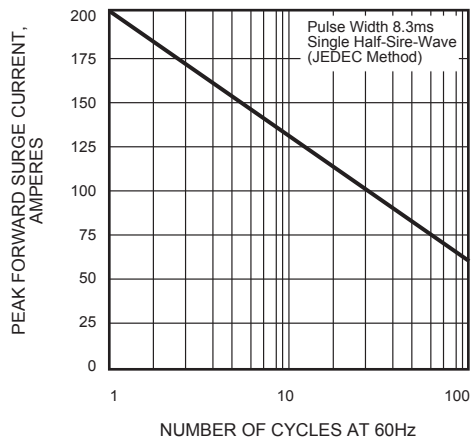


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

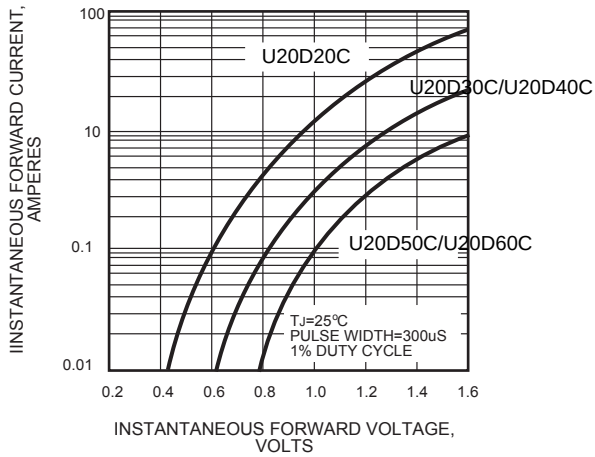


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

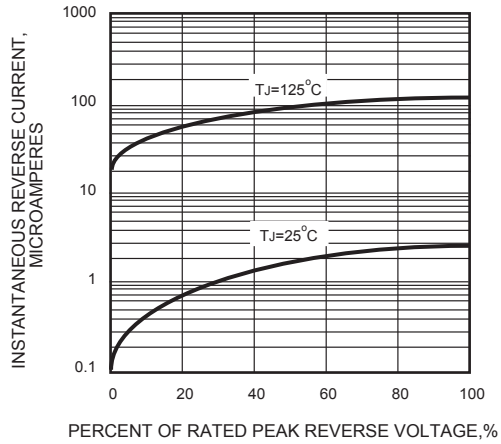
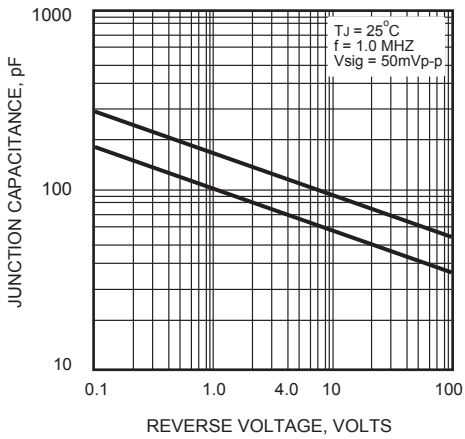


FIG.5 - TYPICAL JUNCTION CAPACITANCE



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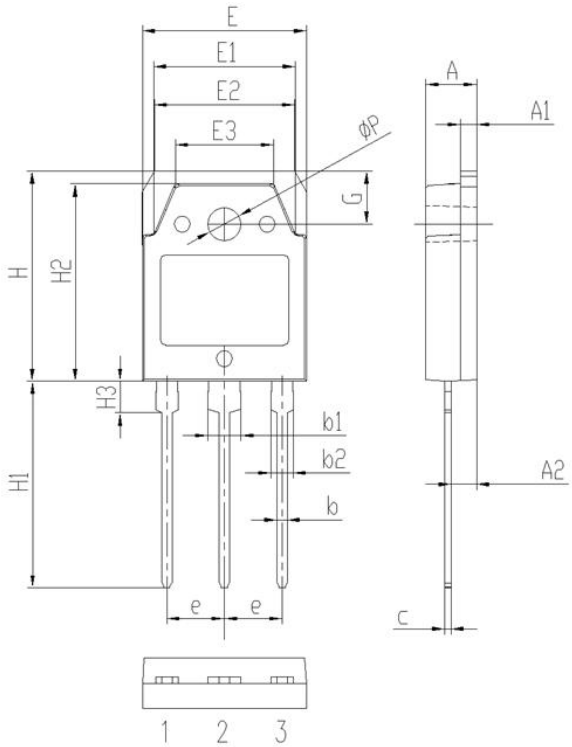
Package Information

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

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