THINKI SEMICONDUCTOR ®

MUR3020PTA thru MUR3060PTA

RoHS Pb

30.0 Ampere Dual Common Anode Ultra Fast Recovery Rectifiers

Pb Free Plating Product

Features

◇ Dual rectifier construction, positive center-tap
◇ Plastic package has Underwriters Laboratory Flammability Classification 94V0
◇ Glass passivated chip junctions
◇ Superfast recovery time, high voltage
◇ Low forward voltage, high current capability
◇ Low thermal resistance
◇ Low power loss, high efficiency
◇ High temperature soldering guaranteed: 260°C, 0.16"(4.06mm)from case for 10 seconds

Mechanical Data

◇ Cases: TO-3P/TO-247AD molded plastic
◇ Terminals: Pure tin plated, lead free solderable per MIL-STD-750. Method 2026
◇ Polarity: As marked
◇ Mounting position: Any
◇ Mounting torque: 10in-lbs. Max.
◇ Weight: 0.2 ounce, 5.6 gram approximately

TO-3P/TO-247AD   Unit: inch (mm)

| Positive Common Cathode Suffix "PT" | Negative Common Anode Suffix "PTA" | Doubler Tandem Polarity Suffix "PTD" |
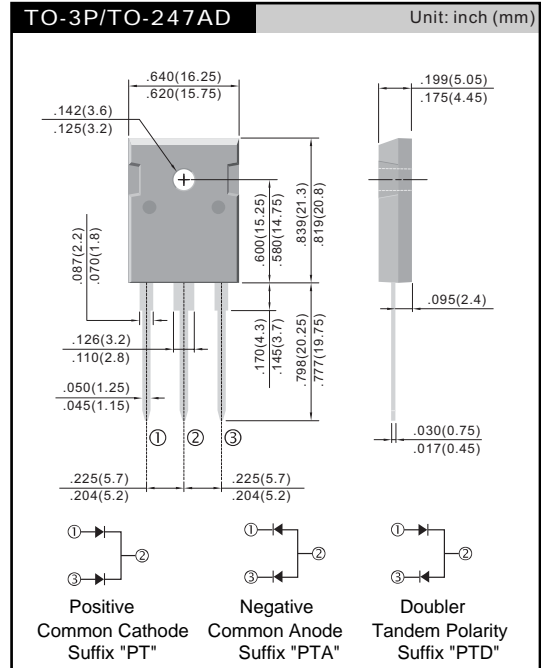
MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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	MUR3020PT MUR3020PTA MUR3020PTD	MUR3040PT MUR3040PTA MUR3040PTD	MUR3060PT MUR3060PTA MUR3060PTD	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	$I_{F(AV)}$	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	V_F	0.98	1.3	1.7	V
Maximum DC Reverse Current @T_J=25°C	I_R	10			uA
At Rated DC Blocking Voltage @T_J=125°C		500			uA
Maximum Reverse Recovery Time (Note 1)	T_{rr}	35			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 Irr = 0.25A.

(2) Thermal Resistance junction to terminal.

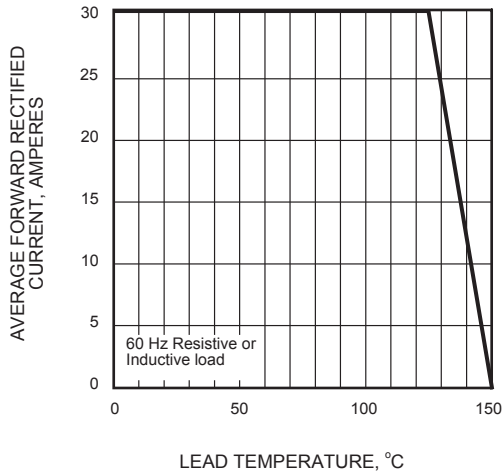(3) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts DC.

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FIG.1 - FORWARD CURRENT DERATING CURVE

AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

60 Hz Resistive or Inductive load

LEAD TEMPERATURE, ^{o}C

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

PEAK FORWARD SURGE CURRENT, AMPERES

Pulse Width 8.3ms
Single Half-Sire-Wave
(JEDEC Method)

NUMBER OF CYCLES AT 60Hz
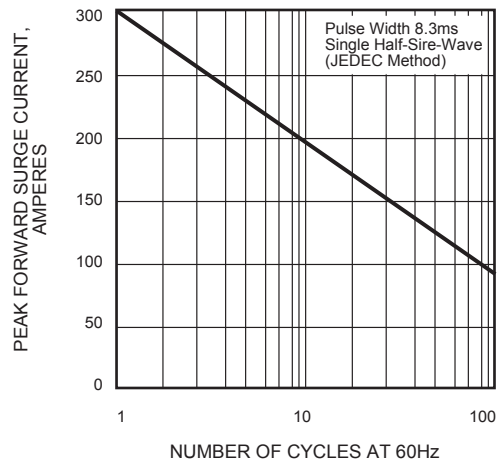
FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

INSTANTANEOUS FORWARD CURRENT, AMPERES

MUR3020PTA

MUR3040PTA

MUR3060PTA

T_J=25°C
PULSE WIDTH=300uS
1% DUTY CYCLE

INSTANTANEOUS FORWARD VOLTAGE, VOLTS
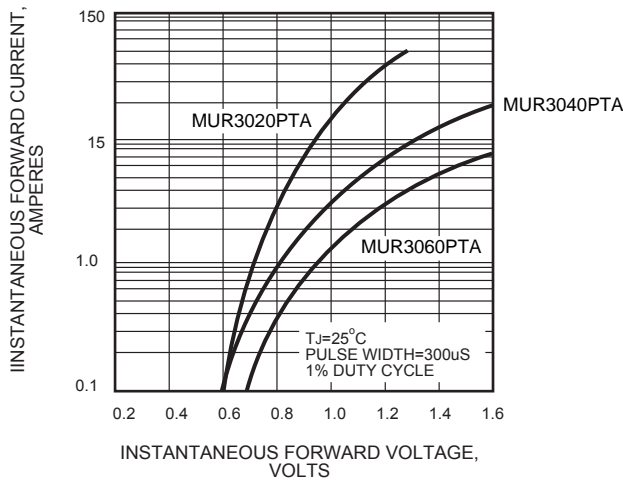
FIG.4 - TYPICAL REVERSE CHARACTERISTICS

INSTANTANEOUS REVERSE CURRENT, MICROAMPERES
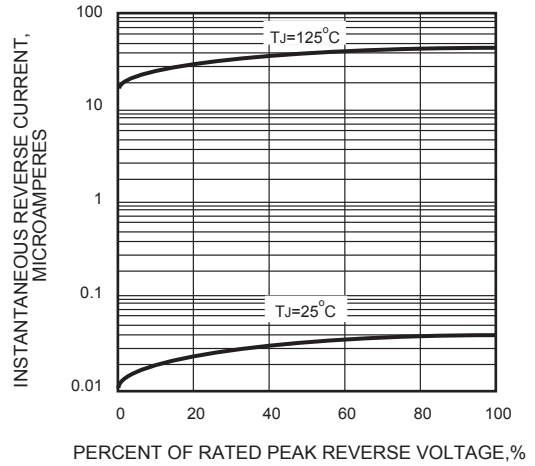
T_J=125°C

T_J=25°C

PERCENT OF RATED PEAK REVERSE VOLTAGE,%

FIG.5 - TYPICAL JUNCTION CAPACITANCE

JUNCTION CAPACITANCE, pF

T_J = 25°C
f = 1.0 MHZ
Vsig = 50mVp-p

REVERSE VOLTAGE, VOLTS

http://www.thinkisemi.com/