

## Ultrafast Recovery Rectifier

## MUR3040PT

### FEATURES

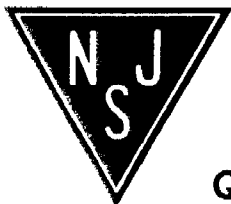
- 175 °C high performance Schottky diode
- Very low forward voltage drop
- Extremely low reverse leakage
- Optimized VF vs. IR trade off for high efficiency
- Increased ruggedness for reverse avalanche capability
- RBSOA available
- Negligible switching losses
- Submicron trench technology
- Full lead (Pb)-free and RoHS compliant devices
- Designed and qualified for industrial level

### APPLICATIONS

- High efficiency SMPS
- Automotive
- High frequency switching
- Output rectification
- Reverse battery protection
- Freewheeling
- Dc-to-dc systems
- Increased power density systems

### ABSOLUTE MAXIMUM RATINGS( $T_a=25^{\circ}\text{C}$ )

SYMBOL	PARAMETER	VALUE	UNIT
$V_{RRM}$ $V_{RWM}$ $V_R$	Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	400	V
$I_{F(AV)}$	Average Rectified Forward Current <b>Per Leg</b> (Rated $V_R$ ) <b>Total Device</b>	15 30	A
$I_{FM}$	Peak Repetitive Forward Current (Rated $V_R$ , Square Wave, 20kHz) <b>Per Diode Leg</b>	30	A
$I_{FSM}$	Nonrepetitive Peak Surge Current (Surge applied at rated load conditions half- wave, single phase, 60Hz)	150	A
$T_J$	Junction Temperature	-65~175	°C
$T_{stg}$	Storage Temperature Range	-65~175	°C



**Ultrafast Recovery Rectifier****MUR3040PT****THERMAL CHARACTERISTICS**

<b>SYMBOL</b>	<b>PARAMETER</b>	<b>MAX</b>	<b>UNIT</b>
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.5	$^{\circ}C/W$

**ELECTRICAL CHARACTERISTICS ( $T_a=25^{\circ}C$ ) (Pulse Test: Pulse Width=300  $\mu$  s, Duty Cycle  $\leq$  2%)**

<b>SYMBOL</b>	<b>PARAMETER</b>	<b>CONDITIONS</b>	<b>MAX</b>	<b>UNIT</b>
$V_F$	Maximum Instantaneous Forward Voltage	$I_F=15A$	1.68	V
$I_R$	Maximum Instantaneous Reverse Current	$V_{RRM}=400V$	5	$\mu A$
$t_{rr}$	Maximum Reverse Recovery Time	$I_F=0.5A, I_R=1A, I_{rr}=0.25A$	60	ns