RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

MUR420PV

ULTRAFAST RECTIFIER

VOLTAGE RANGE 200 Volts CURRENT 4.0 Amperes

FEATURES

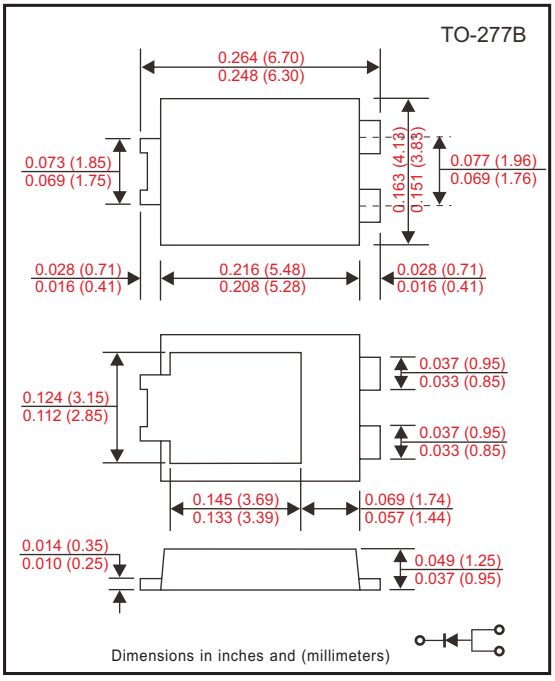
* Low VF ,Low power loss.
* Polyimide passivation.
* Low forward voltage
* High surge capability.
* Ultrafast and soft recovery time for high efficiency.
* Component in accordance to RoHS 2011/65/EU
* High temperature soldering guaranteed:260℃/10 seconds at terminals
* P/N suffix V means AEC-Q101 qualified, e.g:MUR420PV
* P/N suffix V means Halogen-free

MECHANICAL DATA

* Case: Molded plastic
* Epoxy:Device has UL flammability classification 94V-O
* Lead: Solder plated, solderable per MIL-STD-750,Method 2026
* Mounting position: Any

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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



MAXIMUM RATINGS (At T_A = 25°C unless otherwise noted)

RATINGS	SYMBOL	MUR420PV	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	200	Volts
Maximum RMS Voltage	V_{RMS}	140	Volts
Maximum DC Blocking Voltage	V_{DC}	200	Volts
Maximum Average Forward Rectified Current T_C = 165°C (Note 1)	I_O	4.0	Amps
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	150	Amps
Typical Current Squared Time	I^2t	93.38	A^2S
Typical Thermal Resistanc	$R_{\theta JL}$	3.0	°C/W
Typical Junction capacitance	C_J	110	pF
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to + 175	°C

ELECTRICAL CHARACTERISTICS (At T_A = 25°C unless otherwise noted)

CHARACTERISTICS		SYMBOL	MUR420PV	UNITS
Typica Instantaneous Forward Voltage at 4.0A DC	@T_J = 25°C	V_F	0.81	Volts
	@T_J = 125°C		0.68	
Maximum DC Reverse Current at Rated DC Blocking Voltage	@T_J = 25°C	I_R	2.0	uAmps
	@T_J = 125°C		10	
Maximum Reverse Recovery Time (Note 2)		trr	22	nSec

NOTES : 1.Ambient Temperature Measured at Metal Tab
2.Test Conditions: IF =4.0A,dIF/dt=200A/μS,V_R=160V,T_J=25℃

2020-11/90
REV:O

RATING AND CHARACTERISTICS CURVES (MUR420PV)

FIG.1-FORWARD CURRENT DERATING CURVE

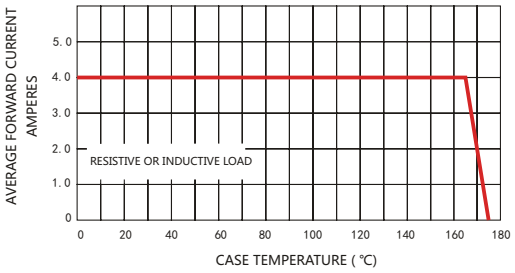


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

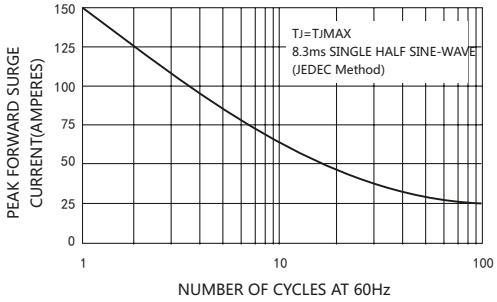


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

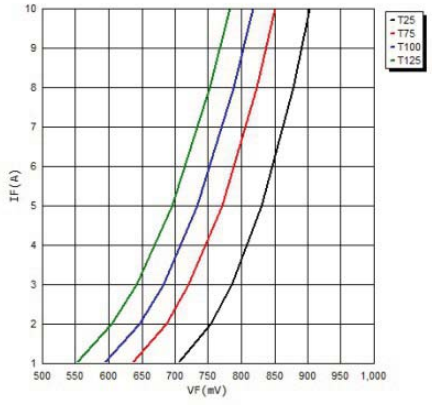


FIG.4-TYPICAL REVERSE CHARACTERISTICS

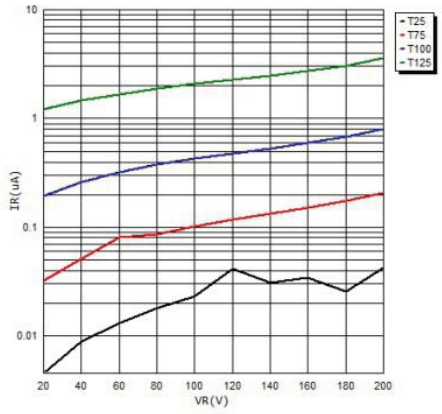


FIG.5-TYPICAL JUNCTION CAPACITANCE

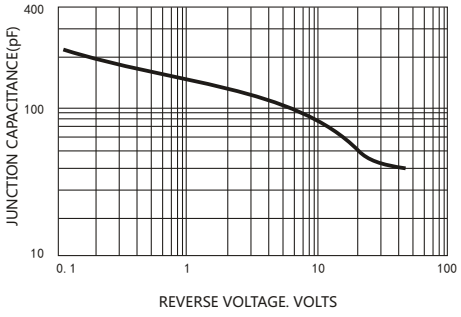
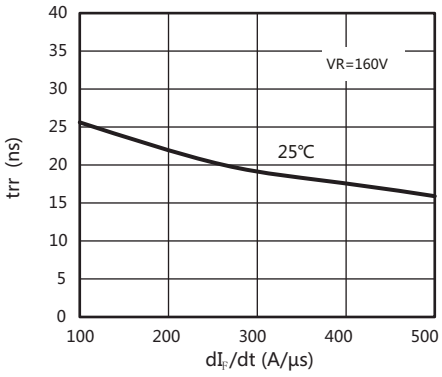
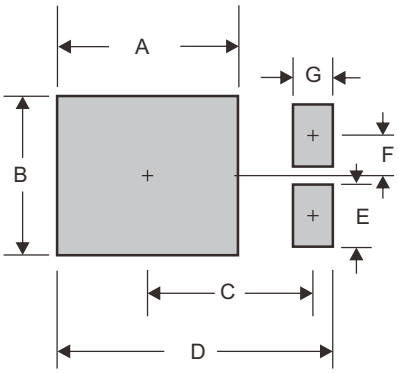


FIG.6- TYPICAL REVERSE RECOVERY TIME vs. dI_F/dt



TO-277B foot print

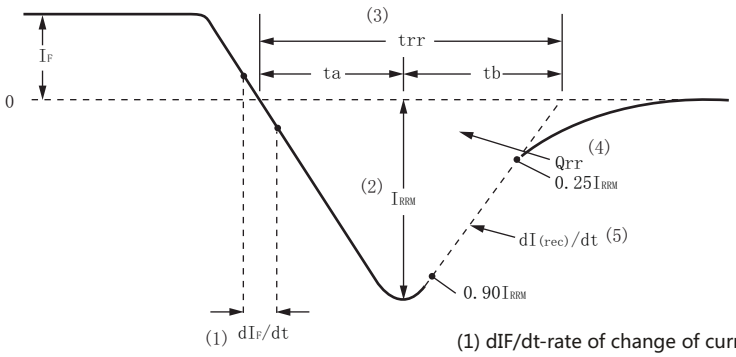


A	B	C	D	E	F	G
0.185 (4.70)	0.142 (3.60)	0.152 (3.87)	0.260 (6.60)	0.055 (1.40)	0.035 (0.90)	0.031 (0.80)

Dimensions in inches and (millimeters)

Rating and characteristic curves

Reverse Recovery Waveform and Definitions



(1) dIF/dt-rate of change of current through zero crossing

(2) Irrm -peak reverse recovery current

(3) trr- reverse recovery time measured from zero crossing point of negative going IF to point where a line passing through 0.90IRRM a nd 0.25IRRM extrapolated to zero current

(4) Qrr- aera under curve defined by trr and IRRM $Q_{rr}=\frac{t_{rr}\times I_{RRM}}{2}$

(5)$dI_{(REC)}/d_t$-peak rate of change of current during tb portion of trr

Ordering/Packing information

Case	Packing Code	Q'TY/Reel (PCS)	Q'TY/Box (PCS)	Q'TY/Carton (PCS)
TO-277B	-T/-W	5,000	10,000	40,000

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