CHENMKO ENTERPRISE CO.,LTD

Lead free devices

SCHOTTKY BARRIER RECTIFIER

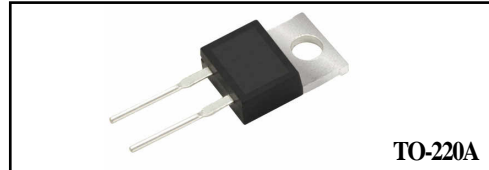### VOLTAGE RANGE 70 - 100 Volts   CURRENT 5 Amperes

S05A70PT THRU S05A100PT

FEATURES
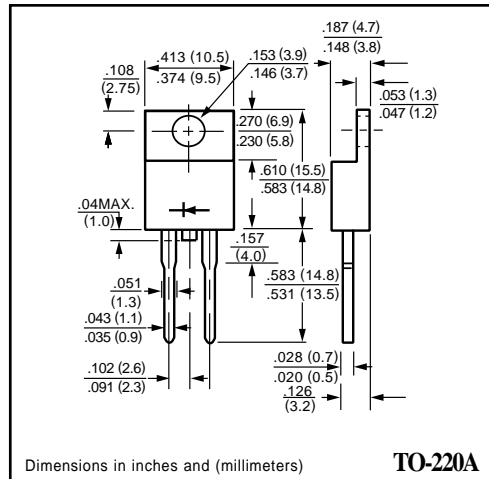
* Plastic package has Underwriters Laboratory Flammability Classification 94V-0
* Metal Silicon junction, majority carrier conduction
* Low power loss,high efficiency
* High current capability, low forward voltage drop
* Guardring for overvoltage protection
* For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
* High temperature soldering in accordance with CECC 802 / Reflow guaranteed

MECHANICAL DATA

Case: JEDEC TO-220A molded plastic
Terminals: Lead solderable per MIL-STD-750, Method 2026
Polarity: As marked
Weight: 1.81 grams (Approximately)

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%.

TO-220A

Dimensions in inches and (millimeters)

TO-220A

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

RATINGS	SYMBOL	S05A70PT	S05A80PT	S05A90PT	S05A100PT	UNITS
Maximum Recurrent Peak Reverse Voltage	VRRM	70	80	90	100	Volts
Maximum RMS Voltage	VRMS	49	56	63	70	Volts
Maximum DC Blocking Voltage	VDC	70	80	90	100	Volts
Maximum Average Forward Rectified Current	IO	5.0				Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	IFSM	125				Amps
Typical thermal resistance per leg (NOTE 1)	RθJC	5.0				°C / W
Operating and Storage Temperature Range	TJ, TSTG	-60 to +150				°C

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

CHARACTERISTICS		SYMBOL	S05A70PT	S05A80PT	S05A90PT	S05A100PT	UNITS
Maximum Instantaneous Forward Voltage at 5.0 A DC		VF	0.75		0.85		Volts
Maximum instantaneous reverse current at	TC = 25°C	IR	5.0				mAmps
rated DC blocking voltage per leg (NOTE 2)	TC = 125°C		50				mAmps

NOTES : 1. Thermal resistance from junction to case per leg
2. Pulse test : 300 us pulse width, 1% duty cycle
3. Suffix " P " = Case Positive, Suffix " R " = Case Negative.

2001-6

RATING CHARACTERISTIC CURVES (S05A70PT THRU S05A100PT)
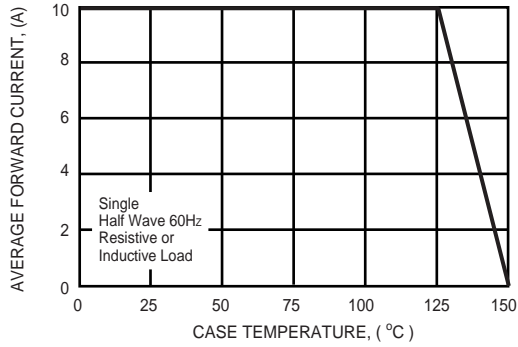
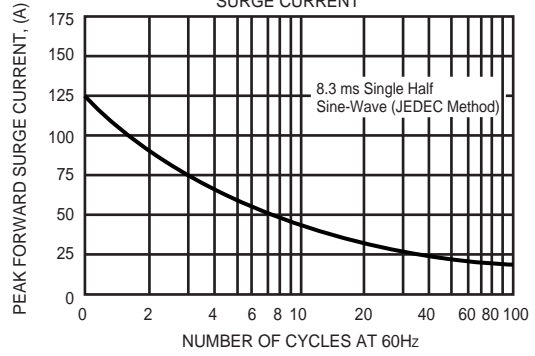FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

AVERAGE FORWARD CURRENT, (A)

Single
Half Wave 60Hz
Resistive or
Inductive Load

CASE TEMPERATURE, (°C)

FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

PEAK FORWARD SURGE CURRENT, (A)

8.3 ms Single Half
Sine-Wave (JEDEC Method)

NUMBER OF CYCLES AT 60Hz

FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARCTERISTICS

INSTANTANEOUS FORWARD CURRENT, (A)

$T_J = 25°C$

S05A70PT~S05A80PT

S05A90PT~S05A100PT

PULSE WIDTH=300uS
1% DUTY CYCLE

INSTANTANEOUS FORWARD VOLTAGE, (V)
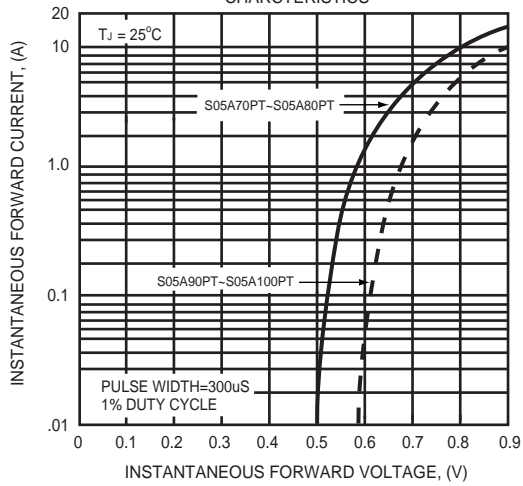
FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

INSTANTANEOUS REVERSE CURRENT, (mA)
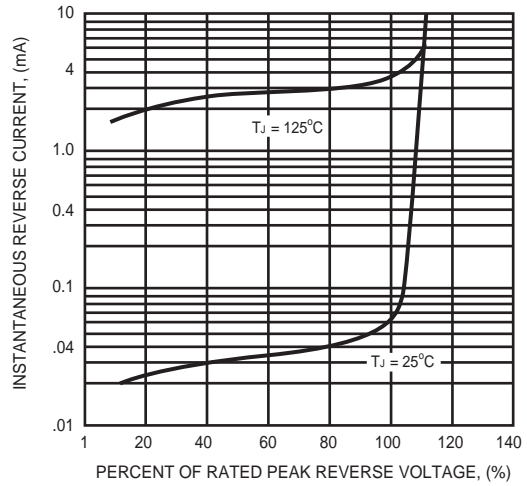
$T_J = 125°C$

$T_J = 25°C$

PERCENT OF RATED PEAK REVERSE VOLTAGE, (%)

FIG. 5 - TYPICAL JUNCTION CAPACITANCE

JUNCTION CAPACITANCE, (pF)

$T_J = 25°C$

S05A70PT~S05A80PT
S05A90PT~S05A100PT

REVERSE VOLTAGE, (V)