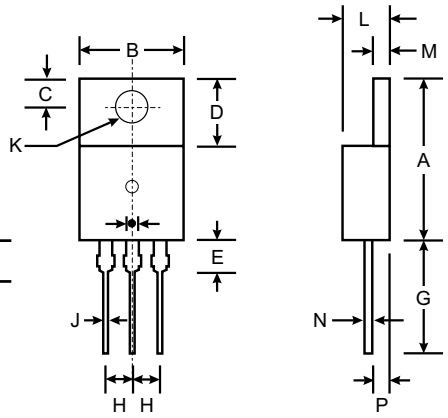
S9005P2CT

20A SCHOTTKY BARRIER RECTIFIER

Features

- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- Plastic Material - UL Flammability Classification 94V-0



TO-220AB		
Dim	**Min**	**Max**
A	14.22	15.88
B	9.65	10.67
C	2.54	3.43
D	5.84	6.86
E	—	6.25
G	12.70	14.73
H	2.29	2.79
J	0.51	1.14
K	3.53∅	4.09∅
L	3.56	4.83
M	1.14	1.40
N	0.30	0.64
P	2.03	2.92
All Dimensions in mm		

Mechanical Data

- Case: Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: As Marked on Body
- Weight: 2.24 grams (approx)
- Mounting Position: Any
- Marking: Type Number

Maximum Ratings and Electrical Characteristics @ T_A = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristic	Symbol	S9005P2CT	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	100	V
Minimum Avalanche Breakdown Voltage per element (Note 1) @ 0.9A	—	110	V
Average Rectified Output Current (Note 1 & 3)	I_O	20	A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) (Note 3)	I_{FSM}	225	A
Instantaneous Forward Voltage Drop @ i_F = 10A	v_{FM}	0.70	V
Peak Reverse Current @ T_C = 25°C at Rated DC Blocking Voltage @ T_C = 125°C	I_{RM}	2.0 80	mA
Typical Junction Capacitance per element (Note 2)	C_j	325	pF
Voltage Rate of Change at Rated DC Blocking Voltage	dv/dt	10000	V/μs
Non-repetitive Avalanche Energy (Constant Current During a 20μs pulse) @ T_C = 125°C	W	10	mJ
Typical Thermal Resistance Junction to Case per element (Note 1)	$R_{\theta Jc}$	1.5	K/W
Operating and Storage Temperature Range	T_j, T_{STG}	-60 +150	°C

Notes: 1. Valid provided that leads are kept at ambient temperature at a distance of 9.5mm from the case.
2. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.
3. I_{FSM} and I_O values shown are for entire package. For any single diode the values are one half of listed value.

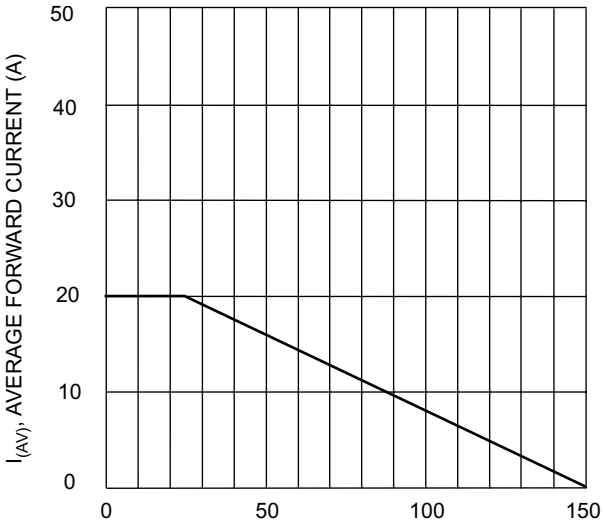


Fig. 1 Forward Current Derating Curve

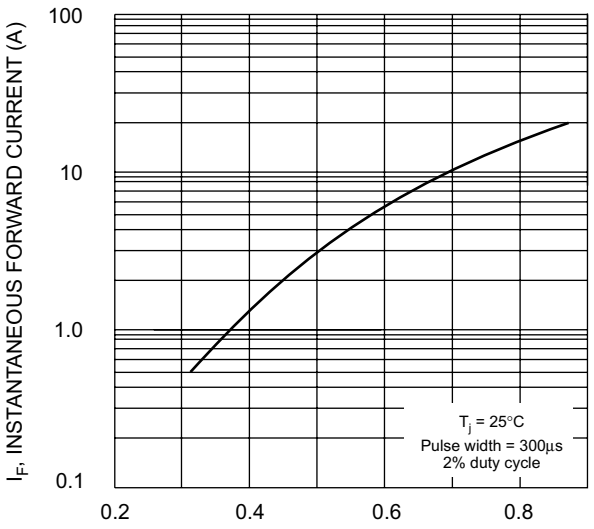


Fig. 2 Typical Forward Characteristics

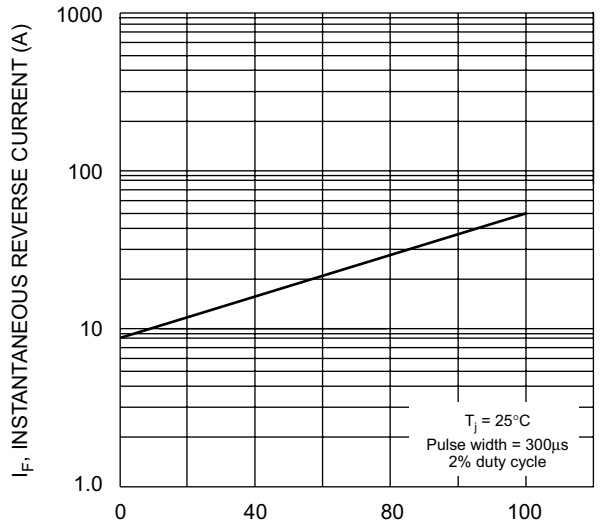


Fig. 3 Typical Reverse Characteristics

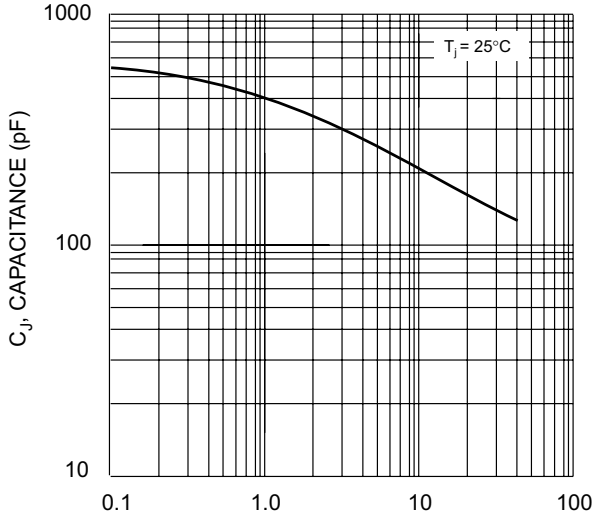


Fig. 4 Typical Junction Capacitance