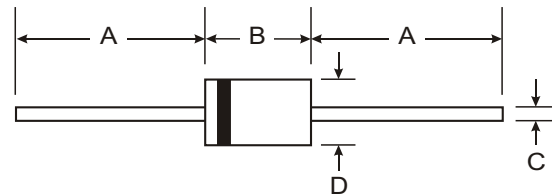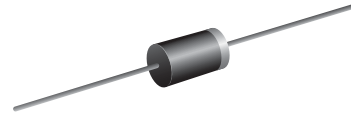# ERA84-009

SCHOTTKY BARRIER RECTIFIER DIODES

VOLTAGE RANGE: 90V
CURRENT: 1.0 A

Features

- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- High Current Capability
- Low Power Loss, High Efficiency
- High Surge Current Capability
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications

Mechanical Data

- Case: DO-41, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.34 grams (approx.)
- Mounting Position: Any
- Marking: Type Number

RoHS COMPLIANT

DO-41		
Dim	**Min**	**Max**
A	25.40	—
B	4.06	5.21
C	0.71	0.864
D	2.00	2.72
All Dimensions in mm		

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	ERA84-009	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	90	V
RMS Reverse Voltage	$V_{R(RMS)}$	70	V
Average Rectified Output Current @T_L = 100°C (Note 1)	I_O	1.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	40	A
Forward Voltage @I_F = 1.0A	V_{FM}	0.85	V
Peak Reverse Current @T_A = 25°C At Rated DC Blocking Voltage @T_A = 100°C	I_{RM}	10	mA
Typical Junction Capacitance (Note 2)	C_j	80	pF
Typical Thermal Resistance (Note 1)	$R_{\theta JL}$ $R_{\theta JA}$	15 50	°C/W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150	°C

Note: 1. Valid provided that leads are kept at ambient temperature at a distance of 9.5mm from the case.
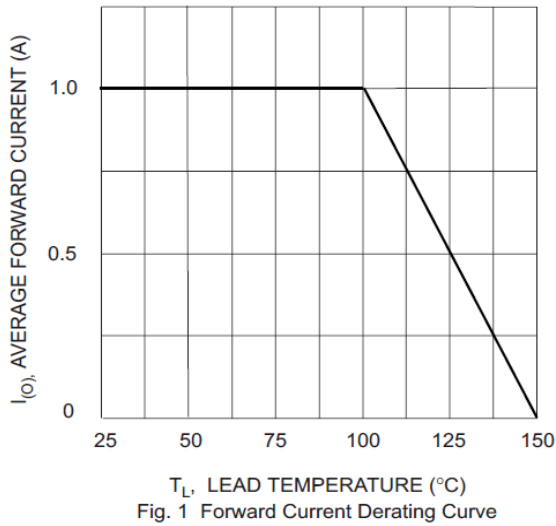   2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

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Fig. 1 Forward Current Derating Curve

$I_{(O)}$, AVERAGE FORWARD CURRENT (A)
T_L, LEAD TEMPERATURE (°C)
Fig. 1 Forward Current Derating Curve

I_F, INSTANTANEOUS FORWARD CURRENT (A)
T_i - 25°C
I_F Pulse Width = 300 μs
V_F, INSTANTANEOUS FWD VOLTAGE (V)
Fig. 2 Typ. Forward Characteristics
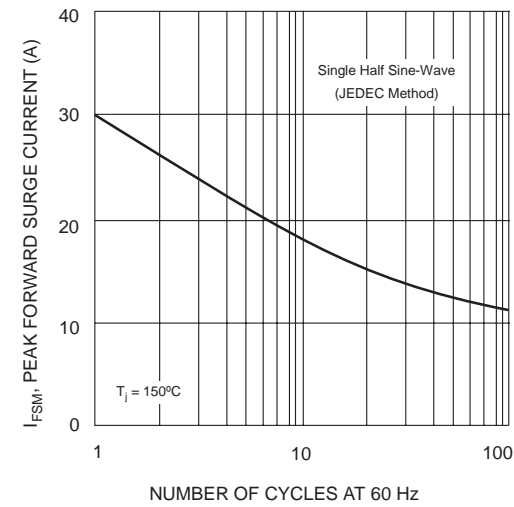
Single Half Sine-Wave
(JEDEC Method)
I_{FSM}, PEAK FORWARD SURGE CURRENT (A)
T_j = 150°C
NUMBER OF CYCLES AT 60 Hz
Fig. 3 Max Non-Repetitive Peak Fwd Surge Current

T_j = 25°C
f = 1 MHz
C_j, JUNCTION CAPACITANCE (pF)
V_R, REVERSE VOLTAGE (V)
Fig. 4 Typical Junction Capacitance
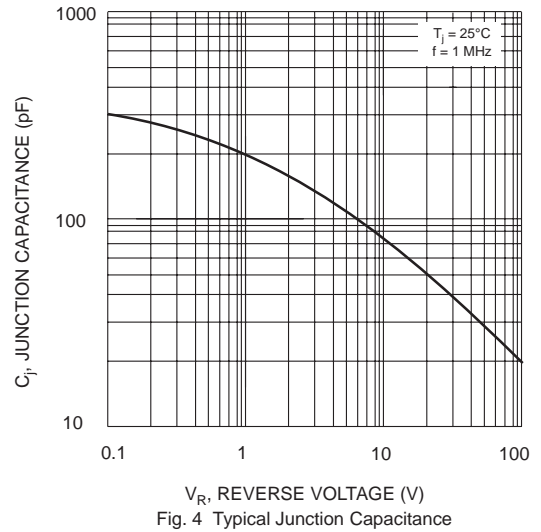
I_R, INSTANTANEOUS REVERSE CURRENT (mA)
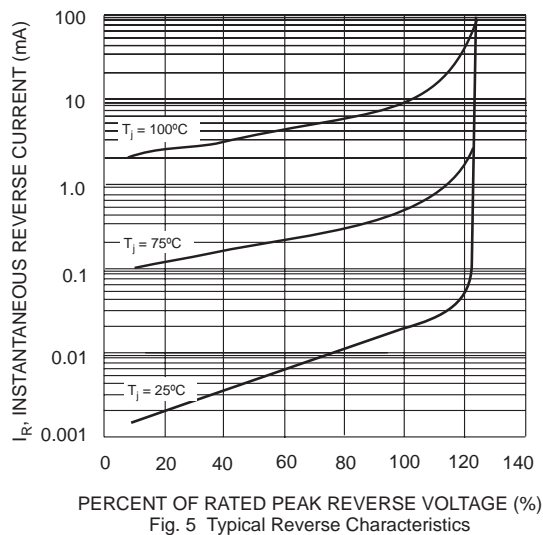T_j = 100°C
T_j = 75°C
T_j = 25°C
PERCENT OF RATED PEAK REVERSE VOLTAGE (%)
Fig. 5 Typical Reverse Characteristics

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