

SUPER FAST RECTIFIERS

VOLTAGE RANGE: 50 --- 600 V
CURRENT: 3.0A

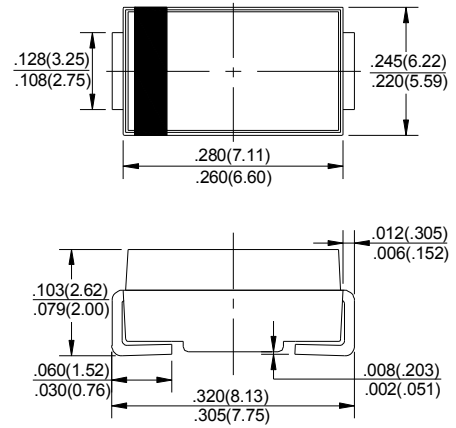
FEATURES

- ◇ Metal-semiconductor junction with guard ring
- ◇ Epitaxial construction
- ◇ Low forward voltage drop, low switching losses
- ◇ High surge capability
- ◇ For use in low voltage, high frequency inverters free wheeling, and polarity protection applications
- ◇ The plastic material carries U/L recognition 94V-0

MECHANICAL DATA

- ◇ Case: JEDEC SMC, molded plastic
- ◇ Terminals: Axial lead, solderable per MIL-STD-750, Method 2026
- ◇ Polarity: Indicated by cathode band
- ◇ Weight: 0.007 ounces, 0.21 grams
- ◇ Mounting position: Any

SMC



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 by 20%.

CHARACTERISTICS	SYMBOL	ES3A	ES3B	ES3D	ES3G	ES3J	UNIT
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	200	400	600	V
Maximum RMS Voltage	V _{RMS}	35	70	140	280	420	V
Maximum DC Blocking Voltage	V _{DC}	50	100	200	400	600	V
Maximum Average Forward Rectified Current @T _A =55 !	I _(AV)	3.0					A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Super Imposed on Rated Load(JEDEC Method)	I _{FSM}	100					A
Peak Forward Voltage at 3.0A DC	V _F	0.95			1.3	1.70	V
Maximum DC Reverse Current @T _J =25! at Rated DC Blocking Voltage @T _J =100!	I _R	5.0 100					μA
Maximum Reverse Recovery Time(Note 1)	T _{RR}	35					nS
Typical Junction Capacitance (Note2)	C _J	70			45		pF
Typical Thermal Resistance (Note3)	R _{θJA}	20					! /W
Operating Temperature Range	T _J	-55 to +150					!
Storage Temperature Range	T _{STG}	-55 to +150					!

- NOTE: 1. Pulse test: 300us pulse width, 1% duty cycle.
2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
3. Thermal resistance junction to ambient

FIG. 1 - FORWARD CURRENT DERATING CURVE

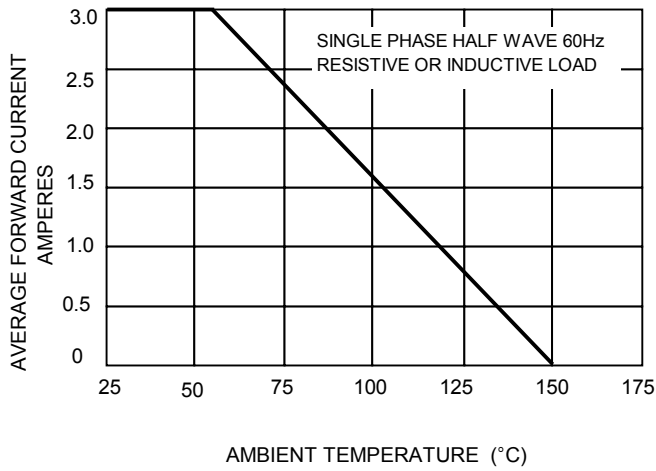


FIG. 2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

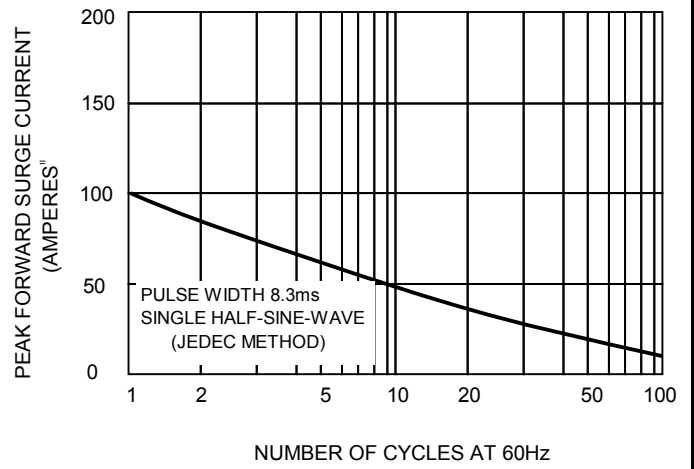


FIG.3 - TYPICAL JUNCTION CAPACITANCE

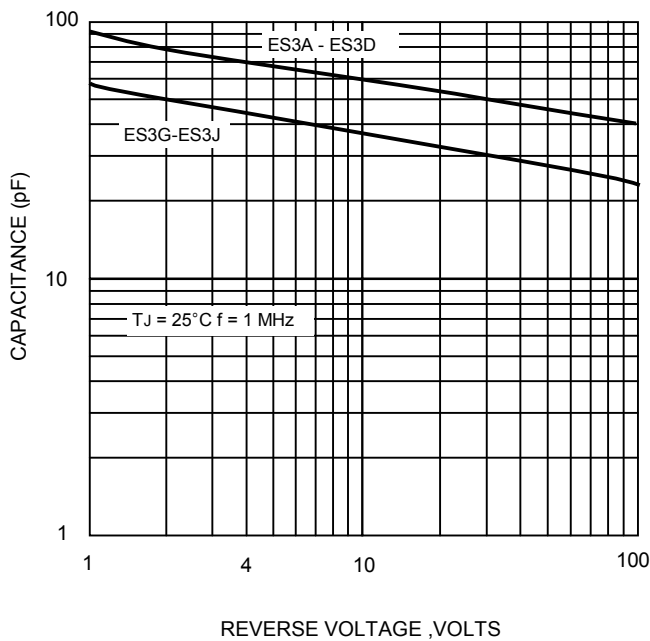


FIG.4-TYPICAL FORWARD CHARACTERISTICS

