

## 6 AMP SUPER-EFFICIENT RECTIFIERS

### FEATURES

- Glass Passivated for high reliability/temperature performance
- Low switching noise
- Low forward voltage drop
- Low thermal resistance
- High switching capability
- High surge capability

### RoHS COMPLIANT

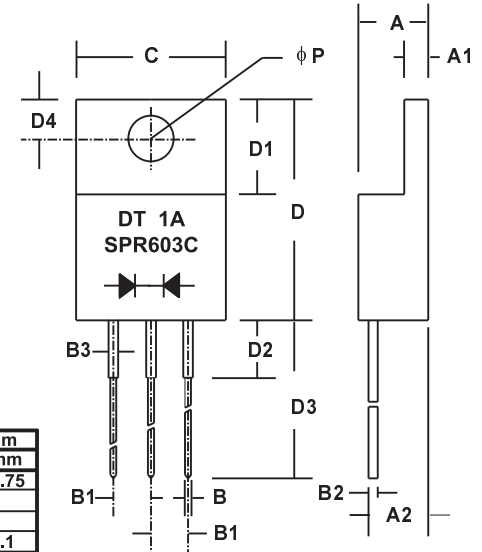
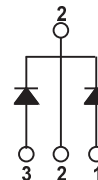
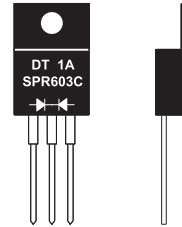
### MECHANICAL DATA

- Case: TO-220 molded epoxy (Fully Insulated) (U/L Flammability Rating 94V-0)
- Terminals: Rectangular pins w/ standoff
- Solderability: Per MIL-STD 202 Method 208 guaranteed
- Polarity: Diodes depicted on product
- Mounting Position: Any
- Weight: 0.06 Ounces (1.75 Grams)

### MECHANICAL SPECIFICATION

ACTUAL SIZE OF TO-220AB PACKAGE

FULLY INSULATED PACKAGE



Sym	Minimum		Maximum	
	in	mm	in	mm
A			0.187	4.75
A1	0.055*	1.4*		
A2	0.14*	3.56*		
B	0.035	0.9	0.043	1.1
B1	0.09	2.3	0.102	2.6
B2	0.028*	0.66*		
B3	0.051*	1.3*		
C			0.410	10.4
D	0.59	15.0	0.61	15.5
D1	0.25*	6.4*		
D2			0.16	4.0
D3	0.53	13.5	0.57	14.8
D4	0.108*	2.75*		
phi P	0.141*	3.58*		

\* These dimensions are "Typicals".

ITO - 220AB

SERIES SPR601C - SPR605C

### MAXIMUM RATINGS & ELECTRICAL CHARACTERISTICS

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

PARAMETER (TEST CONDITIONS)	SYMBOL	RATINGS					UNITS
		SPR 601C	SPR 602C	SPR 603C	SPR 604C	SPR 605C	
Series Number							
Maximum DC Blocking Voltage	VRM	100	200	300	400	500	VOLTS
Maximum RMS Voltage	VRMS	70	140	210	280	350	
Maximum Peak Recurrent Reverse Voltage	VRRM	100	200	300	400	500	
Average Forward Rectified Current @ Tc = 120 °C	IO	6					AMPS
Peak Forward Surge Current ( 8.3mS single half sine wave superimposed on rated load)	IFSM	60					
Maximum Forward Voltage (per diode) at 3 Amps DC	VFM	1.0		1.25			VOLTS
Maximum Average DC Reverse Current @ Tc = 25 °C At Rated DC Blocking Voltage @ Tc = 100 °C	IRM	10 500					µA
Typical Thermal Resistance, Junction to Case	RθJC	4					°C/W
Typical Junction Capacitance (Note 1)	CJ	65					pF
Maximum Reverse Recovery Time (If=3.0A, di/dt=50A/µS, Tj=25°C)	TRR	30					nSec
Junction Operating and Storage Temperature Range	TJ, TSTG	-65 to +150					°C

NOTES: (1) Measured at 1 MHz and an applied reverse voltage of 4 volts.

497156-6



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### RATING & CHARACTERISTIC CURVES FOR SERIES SPR601C - SPR605C

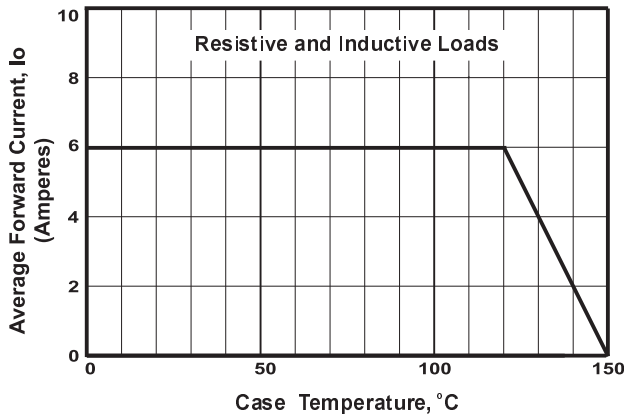


FIGURE 1. FORWARD CURRENT DERATING CURVE

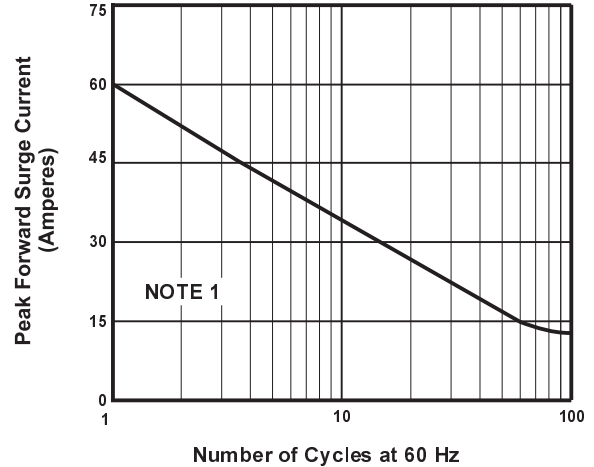


FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT

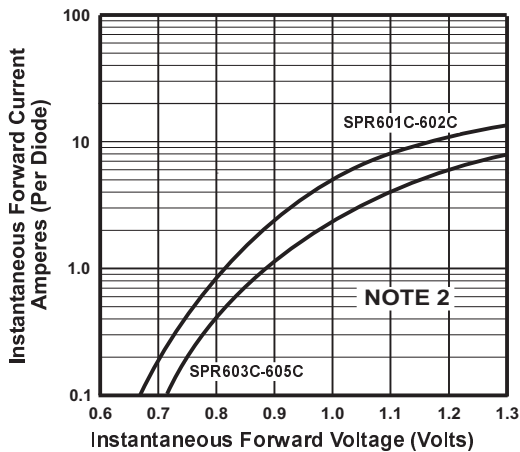


FIGURE 3. TYPICAL FORWARD CHARACTERISTICS

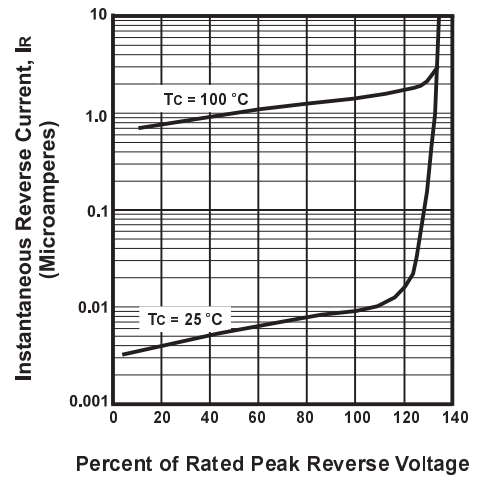


FIGURE 4. TYPICAL REVERSE CHARACTERISTICS

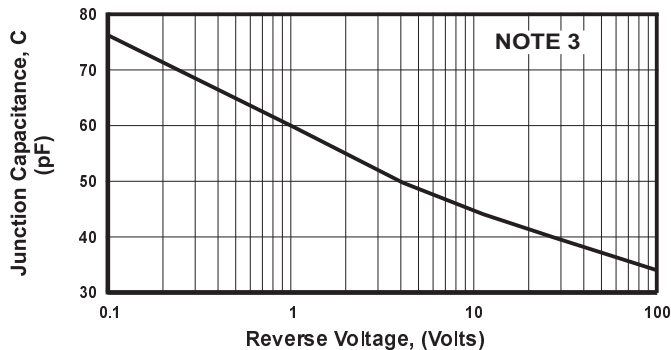


FIGURE 5. TYPICAL JUNCTION CAPACITANCE

#### NOTES

- (1) JEDEC Method, 8.3 mSec. Single Half Sine Wave
- (2)  $T_J = 25^\circ\text{C}$ , Pulse Width = 300  $\mu\text{Sec}$ , 2.0% Duty Cycle
- (3)  $T_C = 25^\circ\text{C}$