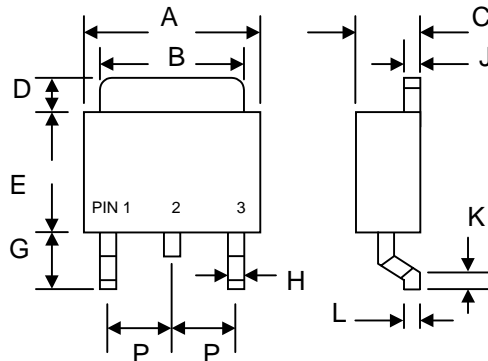


### Features

- 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: Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band
- Weight: 0.4 grams (approx.)
- Mounting Position: Any
- Marking: Type Number
- Standard Packaging: 16mm Tape (EIA-481)

D PAK/TO-252AA		
Dim	Min	Max
A	6.4	6.8
B	5.0	5.4
C	2.35	2.75
D	—	1.60
E	5.3	5.7
G	2.3	2.7
H	0.4	0.8
J	0.4	0.6
K	0.3	0.7
L	0.50 Typical	
P	—	2.3
All Dimensions in mm		

### Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

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

Characteristic	Symbol	SD 620CS	SD 630CS	SD 640CS	SD 650CS	SD 660CS	SD 680CS	SD 6100CS	Unit	
Peak Repetitive Reverse Voltage	$V_{RRM}$	20	30	40	50	60	80	100	V	
Working Peak Reverse Voltage	$V_{RWM}$									
DC Blocking Voltage	$V_R$									
RMS Reverse Voltage	$V_{R(RMS)}$	14	21	28	35	42	56	70	V	
Average Rectified Output Current @ $T_L = 75^\circ\text{C}$	$I_O$	6.0							A	
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	75							A	
Forward Voltage (Note 1) @ $I_F = 3.0\text{A}$	$V_{FM}$	0.55			0.70		0.85		V	
Peak Reverse Current @ $T_A = 25^\circ\text{C}$ At Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$	$I_{RM}$	0.2					15			mA
Typical Junction Capacitance (Note 2)	$C_j$	400							pF	
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	80							K/W	
Operating Temperature Range	$T_j$	-50 to +125							$^\circ\text{C}$	
Storage Temperature Range	$T_{STG}$	-50 to +150							$^\circ\text{C}$	

Note: 1. Mounted on P.C. Board with  $14\text{mm}^2$  (0.13mm thick) copper pad.  
2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

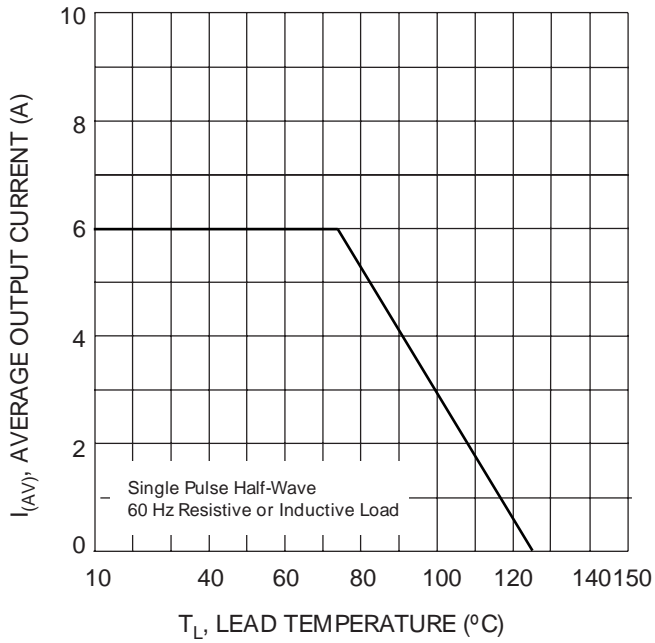


Fig. 1 Forward Current Derating Curve

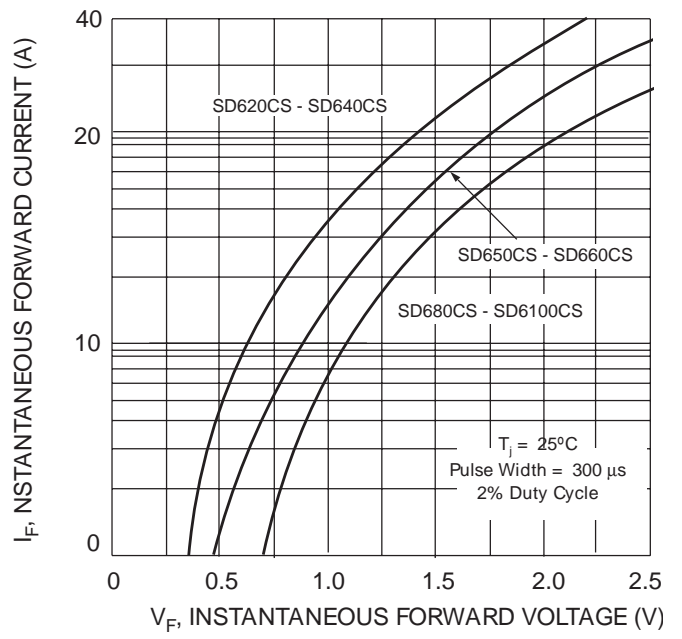


Fig. 2 Typical Forward Characteristics

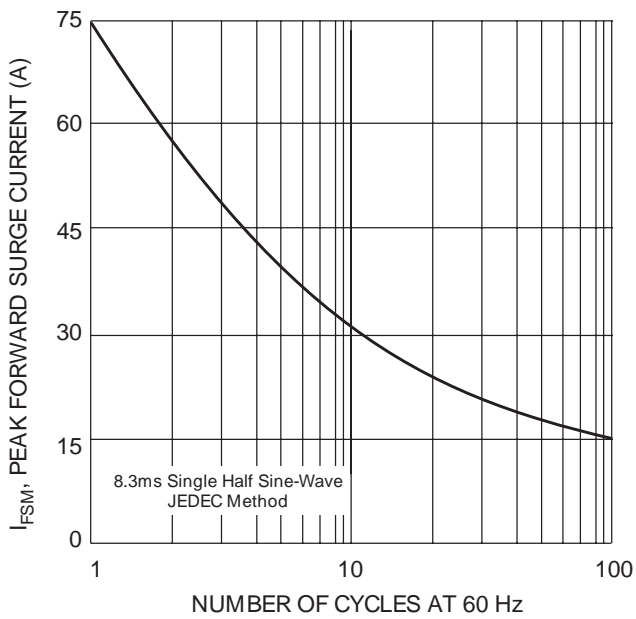


Fig. 3 Maximum Non-Repetitive Peak Fwd Surge Current

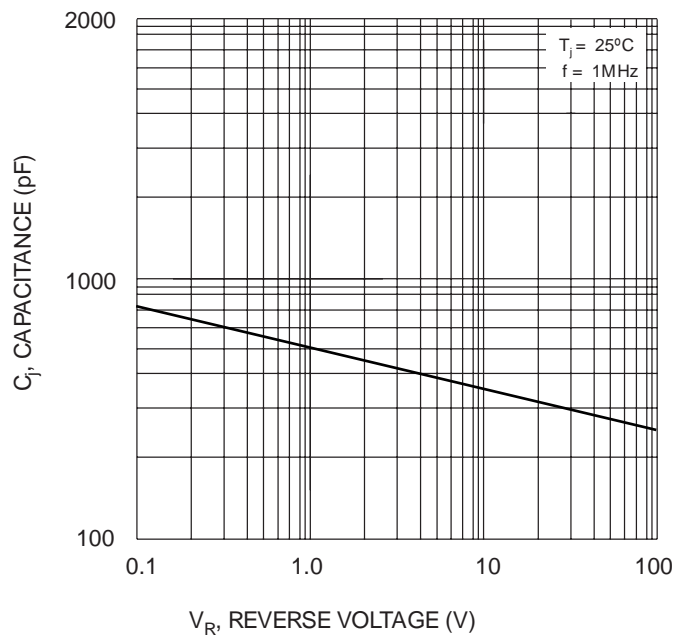


Fig. 4 Typical Junction Capacitance

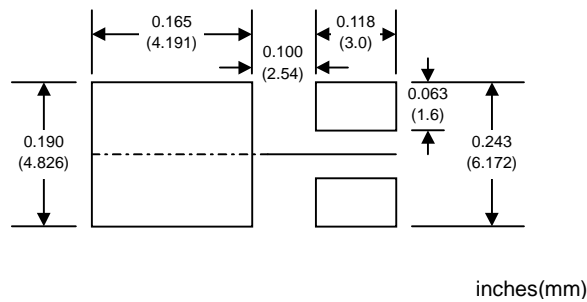
## ORDERING INFORMATION

Product No.♦	Package Type	Shipping Quantity
SD620CS-T3	DPAK	3000/Tape & Reel
SD630CS-T3	DPAK	3000/Tape & Reel
SD640CS-T3	DPAK	3000/Tape & Reel
SD650CS-T3	DPAK	3000/Tape & Reel
SD660CS-T3	DPAK	3000/Tape & Reel
SD680CS-T3	DPAK	3000/Tape & Reel
SD6100CS-T3	DPAK	3000/Tape & Reel

♦T3 suffix refers to a 13" reel.

Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.

## RECOMMENDED FOOTPRINT



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**WARNING:** DO NOT USE IN LIFE SUPPORT EQUIPMENT. WTE power semiconductor products are not authorized for use as critical components in life support devices or systems without the express written approval.

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*We power your everyday.*