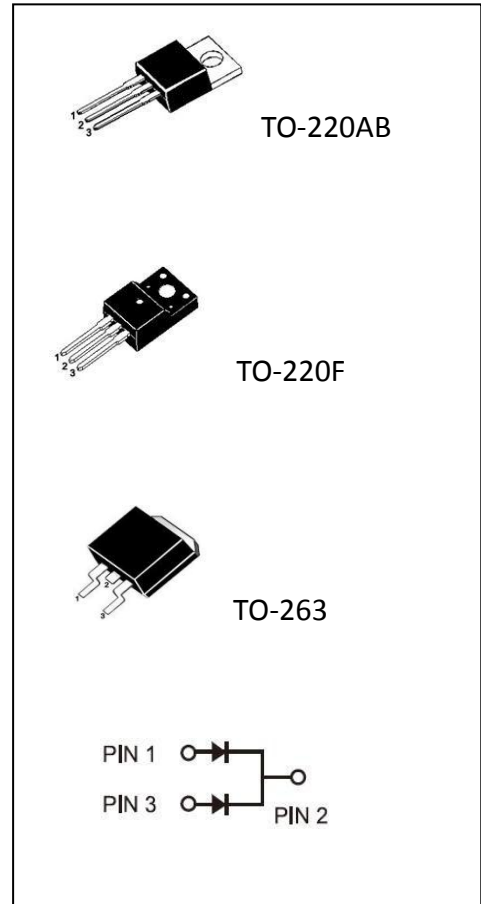


## Schottky Barrier Rectifiers

Using the Schottky Barrier principle with a Refractory metal capable of high temperature operation metal. The proprietary barrier technology allows for reliable operation up to 150°C junction temperature. Typical application are in switching Mode Power Supplies such as adaptors, charger, DC/DC converters and polarity protection diodes.

### Features

- Low Forward Voltage.
- Low Switching noise.
- High Current Capacity.
- Guarantee Reverse Avalanche.
- Guard-Ring for Stress Protection.
- Low Power Loss & High efficiency.
- 150°C Operating Junction Temperature.
- Low Stored Charge Majority Carrier Conduction.
- Flammability Classification 94V-O.
- Lead free in compliance with EU RoHS 2011/65/EU directive.



### Maximum Ratings (Per Leg) at Ta=25°C unless otherwise specified

Characteristics	Symbol	S30C45	S30C60	Unit
Maximum Repetitive Peak Reverse Voltage Working Peak Reverse Voltage Maximum DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	45	60	V
RMS Reverse Voltage	$V_R(RMS)$	32	42	V
Average Rectifier Forward Current ( per diode ) Total Device (Rated VR), Tc=125°C	$I_O$	15 30		A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave	$I_{FSM}$	200		A
Operating and Storage Temperature Range	$T_J, T_{stg}$	-40 to +150		°C
Typical Thermal Resistance junction to case ( per device )	$R_{\theta j-c}$	3.5		°C/W

### Electrical Characteristics (Per Leg) unless otherwise specified

Characteristics	Symbol	S30C45		S30C60		Unit
Maximum Instantaneous Forward Voltage ( per diode ) ( $I_F = 10$ Amp TC = 25°C )	$V_F$	Type	MAX	Type	MAX	V
		0.61	0.64	0.69	0.74	
Maximum Instantaneous Reverse Current	$I_R$	20	50	20	50	$\mu A$
		1	10	1	10	$\mu A$

## RATING AND CHARACTERISTIC CURVES

FIG. 1 – FORWARD CURRENT DERATING CURVE

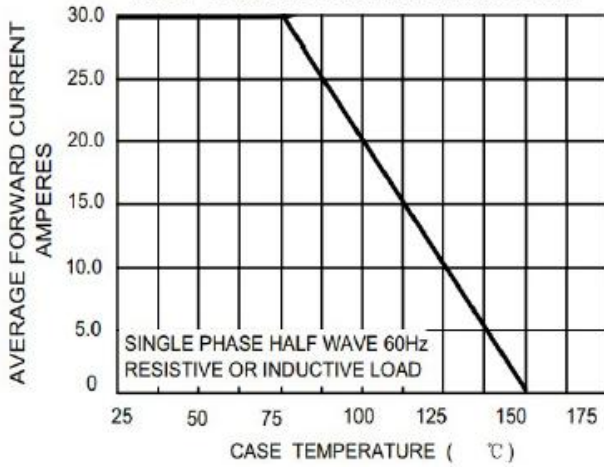


FIG. 2 – MAXIMUM NON-REPETITIVE SURGE CURRENT

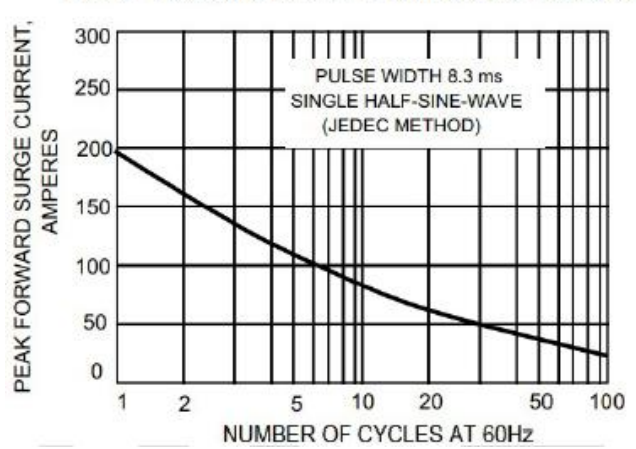


FIG.3-TYPICAL REVERES CHARACTERISTICS

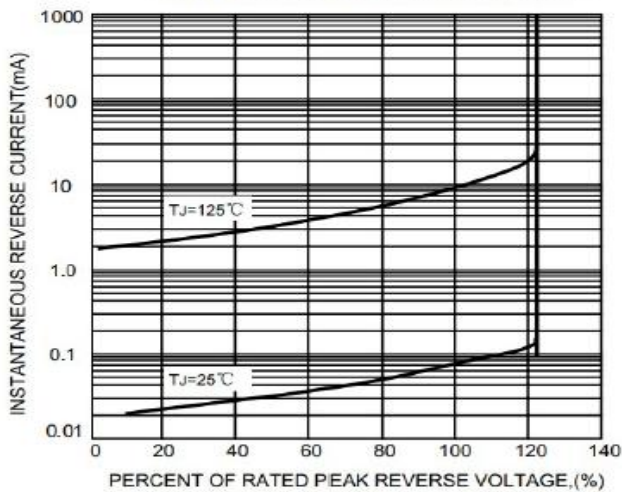


FIG.4-TYPICAL FORWARD CHARACTERISTICS

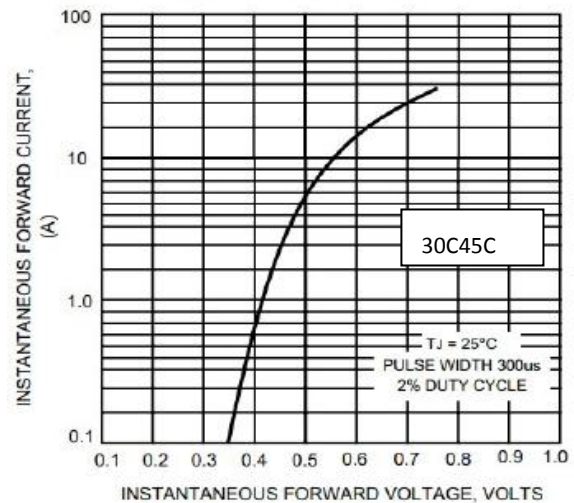


FIG.5 – TYPICAL JUNCTION CAPACITANCE

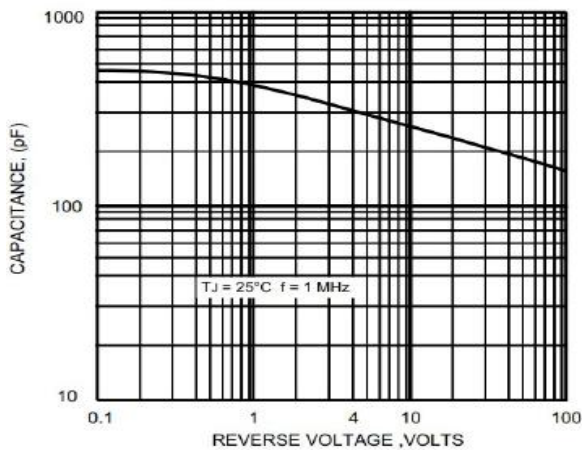
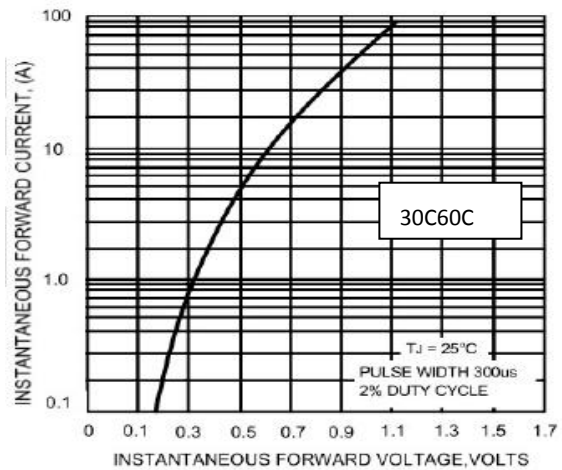
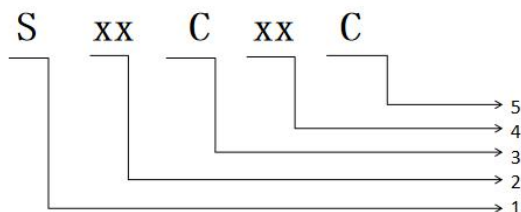


FIG.4-TYPICAL FORWARD CHARACTERISTICS



## Marking on the body

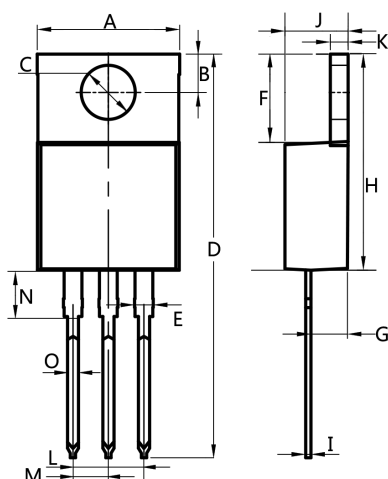
### Diode tube naming convention



- 1: **S**: Schottky    **F**: Recovery
- 2: Rated current(A)
- 3: **C**: GPP Recovery/Schottky  
**F**: fast    **U**: Super fast    **H**: Super fast  
**HP**: Super fast, PFC diode
- 4: Rated voltage(V)
- 5: Package  
**C**: TO-220AB    **F**: TO-220F  
**A**: TO-220AC    **P**: TO-220FAC  
**B**: TO-263    **W**: TO-3P/TO-247S

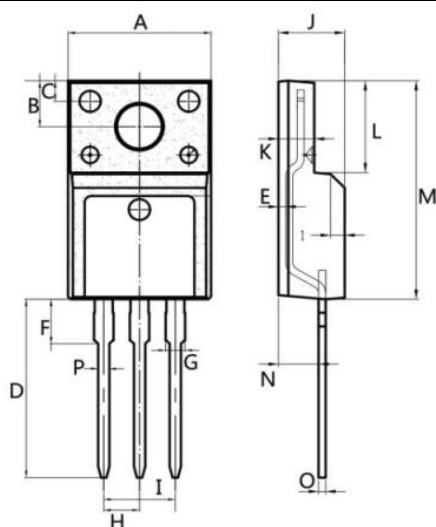
## Package Outline Dimensions millimeters

### TO-220AB



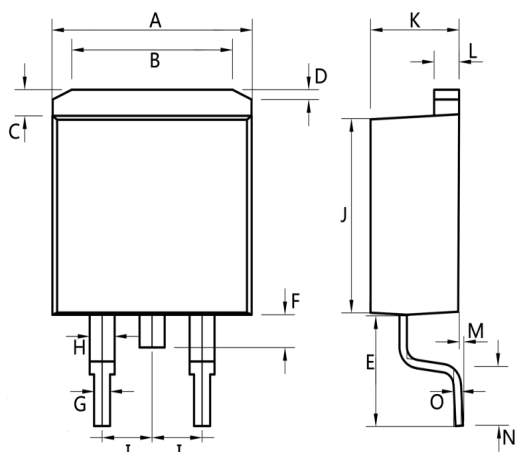
DIM	Min.	Max.
A	10.15	10.35
B	2.65	3.0
C	3.7	3.9
D	28.5	29
E	1.3	1.45
F	6.35	6.55
G	2.9	3.3
H	15.0	16
I	0.38	0.4
J	4.45	4.55
K	1.25	1.35
L	Typ 5.08	
M	Typ 2.54	
N	3.1	3.3
O	0.76	0.84
All Dimensions in millimeter		

### TO-220F



DIM	Min.	Max.
A	9.9	10.3
B	2.9	3.5
C	1.15	1.45
D	12.75	13.45
E	0.55	0.75
F	3.1	3.5
G	1.25	1.45
H	Typ 2.54	
I	Typ 5.08	
J	4.55	4.75
K	2.4	2.7
L	6.35	6.75
M	15.0	16.0
N	2.75	3.15
O	0.45	0.60
P	0.7	0.9
All Dimensions in millimeter		

## TO-263



DIM	Min.	Max.
A	10.1	10.2
B	7.4	7.6
C	1.3	1.5
D	0.55	0.75
E	5.0	6.0
F	1.4	1.6
G	0.78	0.86
H	1.2	1.3
I	Typ 2.54	
J	8.4	8.6
K	4.45	4.55
L	1.25	1.35
M	0.02	0.1
N	2.4	2.8
O	0.36	0.4

All Dimensions in millimeter

### Statement:

- ◆ We reserve the right to change the manual without prior notice! Customers should obtain the latest version of the information before placing an order, and verify that the relevant information is complete and up-to-date.
- ◆ Any semiconductor product has the possibility of failure or failure under specific conditions. The buyer has the responsibility to comply with safety standards and take safety measures when using Silan product for system design and complete machine manufacturing, so as to avoid the occurrence of personal injury or property loss caused by potential failure risk!
- ◆ Product promotion will never end, our company will wholeheartedly provide customers with more excellent products!