

D2PAK

Dimensions in inches and (millimeters)

Ordering Information	
Part Number	Remark
SM30xxCD2	General
SM30xxCD2-H	Halogen Free
SM30xxCD2-Q	Automotive

PRIMARY CHARACTERISTICS	
I_F	30A
V_{RRM}	20~200V
I_{FSM}	200A
V_F	0.60V, 0.75V, 0.85V, 0.95V
T_J max	125°C , 150°C

Features

- Guard Ring for over voltage Protection
- High forward surge capability
- High frequency operation
- Component in accordance to RoHS 2002/95/EC
- AEC-Q101 qualified

Mechanical Data

- Case:D2PAK
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Terminals:Matte Tin Finish annealed over copper Leadframe. Solderable per MIL-STD-202
- Weight: 1.541 grams (approximate)

MAXIMUM RATINGS (TA=25°C unless otherwise noted)

PARAMETER	SYMBOL	SM3020CD2	SM3040CD2	SM3045CD2	SM3050CD2	SM3060CD2	SM3080CD2	SM30100CD2	SM30150CD2	SM30200CD2	UNIT	
Maximum repetitive peak reverse voltage	V_{RRM}	20	40	45	50	60	80	100	150	200	V	
Maximum RMS voltage	V_{RMS}	14	28	31.5	35	42	56	70	105	140	V	
Maximum DC blocking voltage	V_{DC}	20	30	40	50	60	80	100	150	200	V	
Maximum average forward rectified current (Total) (Per Leg)	I_F	30 15									A	
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	200.0									A	
Maximum Instantaneous IF=15A @ 25°C Forward Voltage IF=15A @ 100°C	V_F	0.60 0.55		0.75 0.65		0.85 0.75		0.95 0.82			V	
Maximum DC Reverse Current @ Tc=25°C at Rated DC Blocking Voltage @ Tc=100°C	I_R	1 50				0.5 20					mA	
Typical Junction Capacitance(NOTE1)	C_j	800			600		450		350		pF	
Typical Thermal Resistance	$R_{\theta JC}$	3									°C/W	
Operating Temperature Range	T_J	-55 to +125					-55 to +150					°C
Storage Temperature Range	T_{STG}	-55 to +150									°C	

NOTES:1.Measured at 1.0MHZ and applied reverse voltage of 4.0V DC

FIG. 1-TYPICAL FORWARD CURRENT DERATING CURVE

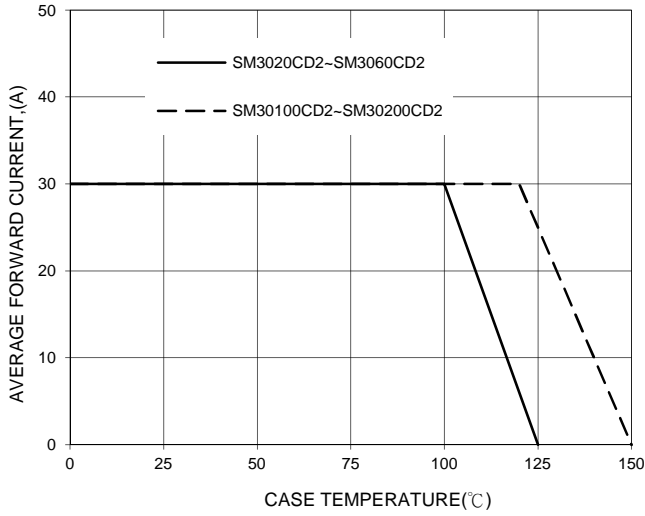


FIG. 2-TYPICAL FORWARD CHARACTERISTICS

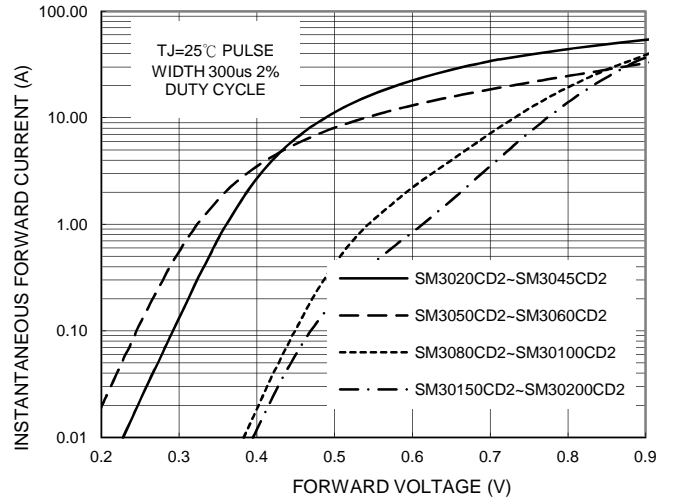


FIG. 3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

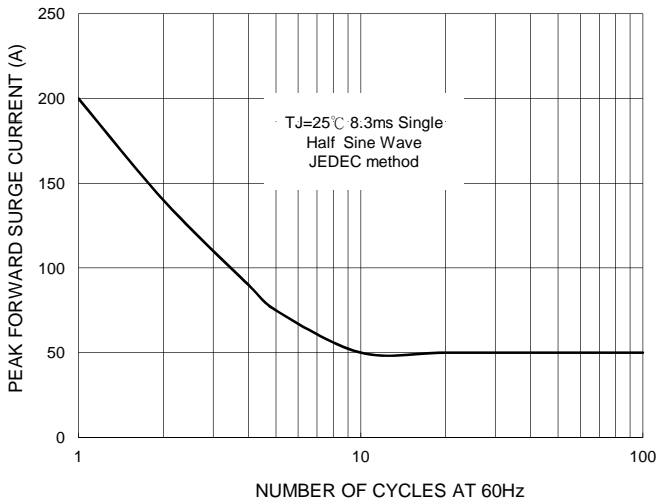


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

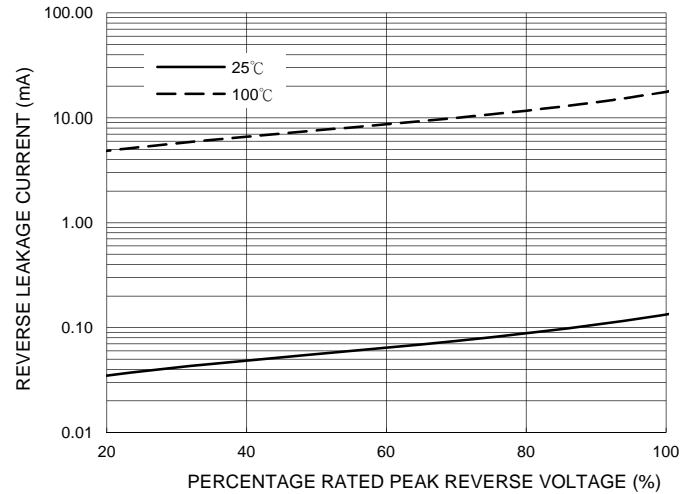


FIG. 5-TYPICAL JUNCTION CAPACITANCE

