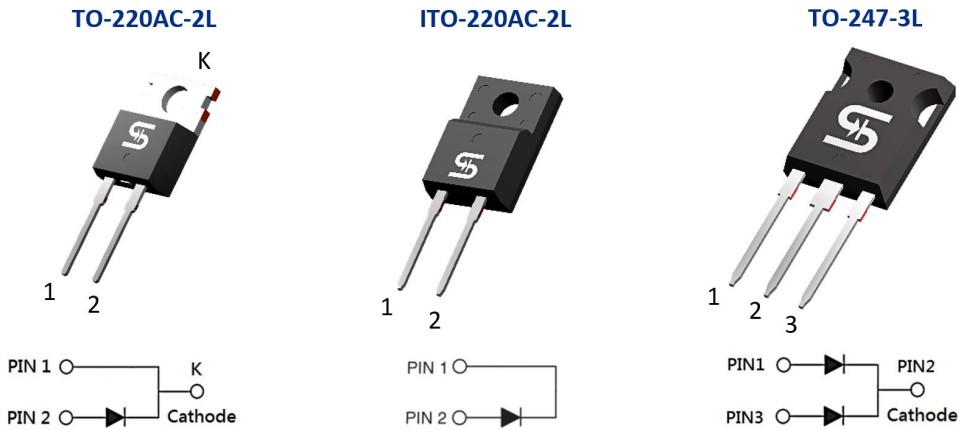




Wide-bandgap Silicon Carbide (SiC) 650V Schottky Barrier Diodes Improve Efficiency in High-Power Systems.



This family of 650V silicon carbide Schottky barrier diode is suitable for high-efficiency AC-DC, DC-DC and DC-AC conversion applications. Unlike silicon-based fast-recovery rectifiers, these SiC devices have negligible switching losses due to low capacitive charge (QC). This makes them suitable for high-speed switching applications, benefitting circuit designs with increased power density and can reduce overall solution size.

Key Features

- Max. junction temperature 175°C
- High-speed switching
- High frequency operation
- Positive temperature coefficient on VF
- SPICE Models available
- Thermal Models available

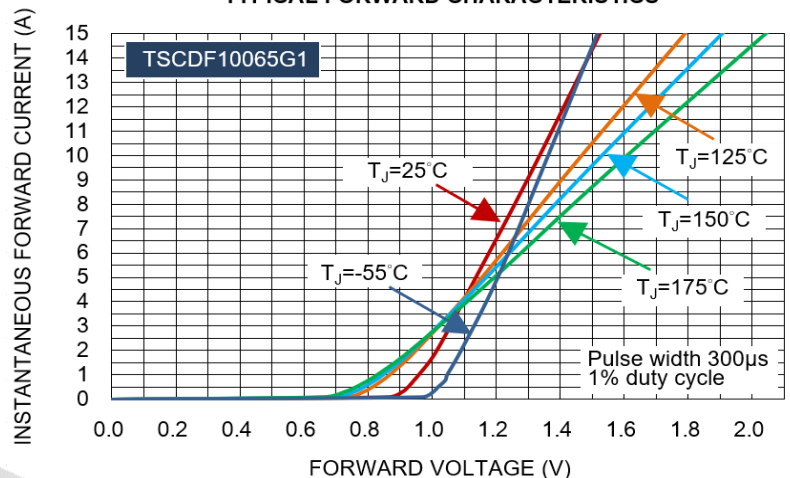
Applications

- AD-DC conversion - PFC Boost
- DC-DC, Solar inverters
- Data center and server power
- Telecom - Datacom power
- UPS systems

Circuit Functions

- PFC boost diode
- Free-wheeling diode
- Full wave bridge
- Vienna bridgeless circuit

TYPICAL FORWARD CHARACTERISTICS





Product Portfolio

Part Number	Package	V _{RRM} (V)	I _F (A)	V _F @ T _A = 25°C		I _R @ T _A = 25°C	I _R @ T _A = 175°C	I _{FSM} (A)	QC Typ (nC)
				Typ. (V)	Max. (V)	Typ. (μA)	Typ. (μA)		
TSCDF06065G1	ITO-220AC-2L	650	6	1.32	1.45	0.37	5.32	44	20.80
TSCDF08065G1			8	1.35	1.45	0.61	5.50	72	27.12
TSCDF10065G1			10	1.34	1.45	0.80	5.42	84	31.70
TSCDF12065G1			12	1.36	1.45	0.75	10.10	88	37.16
TSCDF16065G1			16	1.38	1.45	0.87	9.60	100	49.03
TSCDF20065G1			20	1.38	1.45	1.37	11.30	128	65.57
TSCDT06065G1	TO-220AC-2L		6	1.32	1.45	0.37	5.32	44	20.80
TSCDT08065G1			8	1.35	1.45	0.61	5.50	72	27.12
TSCDT10065G1			10	1.34	1.45	0.80	5.42	84	31.70
TSCDT12065G1			12	1.36	1.45	0.75	10.10	88	37.16
TSCDT16065G1			16	1.38	1.45	0.87	9.60	100	49.03
TSCDT20065G1			20	1.38	1.45	1.37	11.30	128	65.57
TSCDH16065G1	TO-247-3L	16	1.33	1.45	0.61	9.08	68	29.18	
TSCDH20065G1		20	1.34	1.45	0.63	5.50	88	35.39	
TSCDH30065G1		30	1.36	1.45	0.96	9.61	128	54.36	
TSCDH40065G1		40	1.33	1.45	0.80	18.78	140	64.85	

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