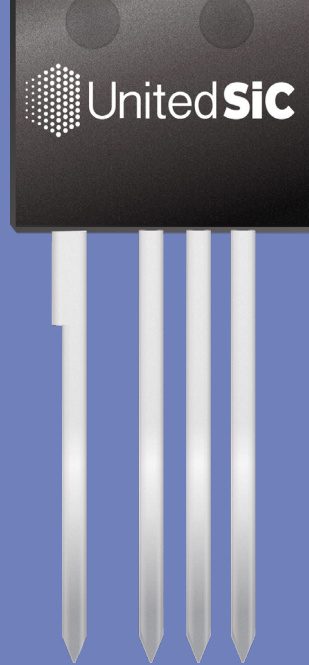




## Product Selector Guide

SiC FETs, SiC JFETs, and SiC Schottky Diodes





## UJ3C & UF3C/SC Series, 650/1200V/1700V SiC FETs

### Key Features

- Excellent body diode performance ( $V_f < 2V$ )
- Drive with any Si and/or SiC gate drive voltage
- Low  $R_{DS(on)}$  from  $7m\Omega$  to  $410m\Omega$
- High performance cascode configuration
- Superior thermal performance
- Integrated ESD and gate protection
- Kelvin packages (TO-247-4L, and DFN 8x8)

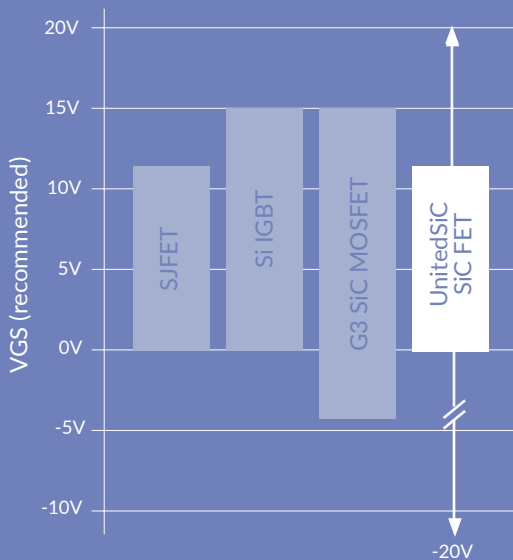
### End Applications

- Electric Vehicles
- Battery Chargers
- Telecom & Server PSU
- Circuit Protection
- Solar Inverters
- Energy Storage

## Drop-in Functionality Without Changing Gate Drive Voltage

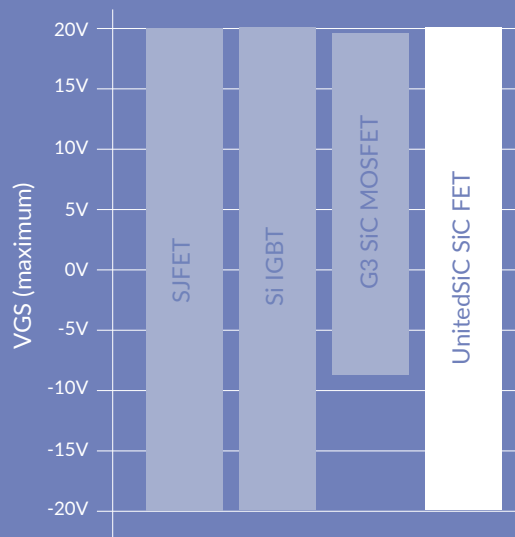
(Replaces Si IGBTs, Si FETs, SiC MOSFETs or Si Superjunction Devices)

### 12V/0V Operation Simplifies Upgrading



Innovative cascode configuration enables Si and SiC gate voltage compatibility

### Superior Gate and ESD Protection



Integrated clamping diode protects gates from  $|25V|$  and adds ESD protection

## SiC FETs

### UJ3C Series Selector Guide | General Purpose

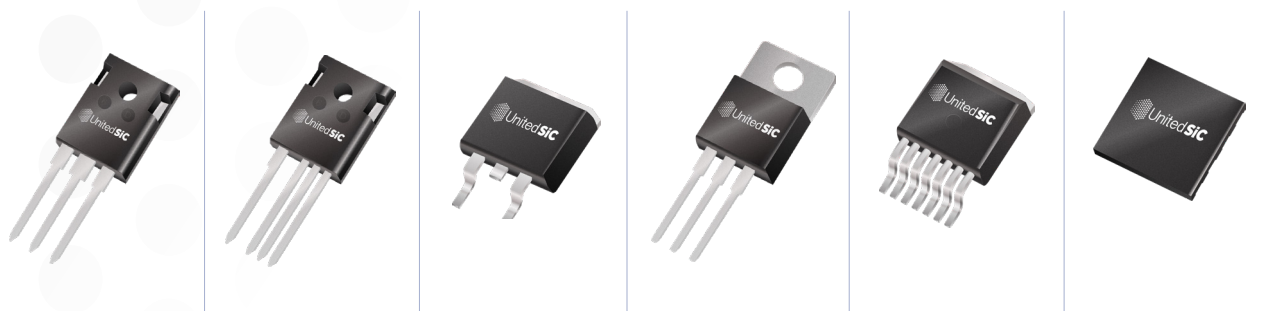
Voltage	Part Number	Description	Id Max (A) at 25°C	Samples	Prod.	Package
1200V	UJ3C120150K3S	1200V 150mΩ SiC Cascode	18.4	Now	Now	TO-247-3L
	UJ3C120080K3S	1200V 80mΩ SiC Cascode	33.0	Now	Now	TO-247-3L
	UJ3C120070K3S	1200V 70mΩ SiC Cascode	34.5	Now	Now	TO-247-3L
	UJ3C120040K3S	1200V 35mΩ SiC Cascode	65.0	Now	Now	TO-247-3L
650V	UJ3C065080K3S	650V 80mΩ SiC Cascode	31.0	Now	Now	TO-247-3L
	UJ3C065030K3S	650V 30mΩ SiC Cascode	85.0	Now	Now	TO-247-3L
	UJ3C065080T3S	650V 80mΩ SiC Cascode	31.0	Now	Now	TO-220-3L
	UJ3C065030T3S	650V 27mΩ SiC Cascode	85.0	Now	Now	TO-220-3L
	UJ3C065080B3	650V 80mΩ SiC Cascode	25.0	Now	Now	D2PAK-3L
	UJ3C065030B3	650V 27mΩ SiC Cascode	66.0	Now	Now	D2PAK-3L

### UF3C/SC Fast Series Selector Guide | Hard Switched

Voltage	Part Number	Description	Id Max (A) at 25°C	Samples	Prod.	Pkg.
1700V	UF3C170400K3S	1700V 410mΩ SiC Cascode Fast	7.6	Now	Now	TO-247 3L
1200V	UF3C120150K4S	1200V 150mΩ SiC Cascode Fast	18.4	Now	Now	TO-247-4L
	UF3C120080K4S	1200V 80mΩ SiC Cascode Fast	33.0	Now	Now	TO-247-4L
	UF3C120040K4S	1200V 35mΩ SiC Cascode Fast	65.0	Now	Now	TO-247-4L
	UF3SC120016K4S	1200V 16mΩ SiC Stack Cascode Fast	107.0	Now	Now	TO-247-4L
	UF3SC120009K4S	1200V 8.6mΩ SiC Stack Cascode Fast	120.0	Now	Now	TO-247-4L
	UF3C120400K3S	1200V 410mΩ SiC Cascode Fast	7.6	Now	Now	TO-247-3L
	UF3C120080K3S	1200V 80mΩ SiC Cascode Fast	33.0	Now	Now	TO-247-3L
	UF3C120040K3S	1200V 35mΩ SiC Cascode Fast	65.0	Now	Now	TO-247-3L
	UF3SC120016K3S	1200V 16mΩ SiC Stack Cascode Fast	107.0	Now	Now	TO-247-3L
	UF3C120150B7S	1200V 150mΩ SiC Cascode Fast	18.4	Now	Q4 20	D2PAK-7L
	UF3C120080B7S	1200V 80mΩ SiC Cascode Fast	28.8	Now	Q4 20	D2PAK-7L
	UF3SC120040B7S	1200V 35mΩ SiC Stack Cascode Fast	47.0	Now	Q4 20	D2PAK-7L
650V	UF3C065080K4S	650V 80mΩ SiC Cascode Fast	31.0	Now	Now	TO-247-4L
	UF3C065040K4S	650V 42mΩ SiC Cascode Fast	54.0	Now	Now	TO-247-4L
	UF3C065030K4S	650V 30mΩ SiC Cascode Fast	85.0	Now	Now	TO-247-4L
	UF3SC065007K4S	650V 6.7mΩ SiC Stack Cascode Fast	120.0	Now	Now	TO-247-4L
	UF3SC065080K3S	650V 80mΩ SiC Cascode Fast	31.0	Now	Now	TO-247-3L
	UF3C065040K3S	650V 42mΩ SiC Cascode Fast	54.0	Now	Now	TO-247-3L
	UF3C065030K3S	650V 30mΩ SiC Cascode Fast	85.0	Now	Now	TO-247-3L
	UF3C065080T3S	650V 80mΩ SiC Cascode Fast	31.0	Now	Now	TO-220-3L
	UF3C065040T3S	650V 42mΩ SiC Cascode Fast	54.0	Now	Now	TO-220-3L
	UF3C065030T3S	650V 27mΩ SiC Cascode Fast	85.0	Now	Now	TO-220-3L
	UF3C065080B7S	650V 80mΩ SiC Cascode Fast	27.0	Now	Q4 20	D2PAK-7L
	UF3SC065040B7S	650V 42mΩ SiC Stack Cascode Fast	47.0	Now	Q4 20	D2PAK-7L
	UF3SC065030B7S	650V 27mΩ SiC Stack Cascode Fast	62.0	Now	Q4 20	D2PAK-7L
	UF3C065080B3	650V 80mΩ SiC Cascode Fast	25.0	Now	Now	D2PAK-3L
	UF3C065040B3	650V 42mΩ SiC Cascode Fast	41.0	Now	Now	D2PAK-3L
	UF3C065030B3	650V 27mΩ SiC Cascode Fast	65.0	Now	Now	D2PAK-3L
	UF3SC065040D8S	650V 45mΩ SiC Stack Cascode Fast	18.0	Now	Now	DFN 8x8
	UF3SC065030D8S	650V 34mΩ SiC Stack Cascode Fast	18.0	Now	Now	DFN 8x8

## SiC FETs

### RDS(on) and Package Type



Volt.	RDS(on) mΩ typ.	TO-247-3L	TO-247-4L	D2PAK-3L	TO-220-3L	D2PAK-7L	DFN 8X8
650V	0-9		UF3SC065007K4S				
	20-29	UJ3C065030K3S UF3C065030K3S (1)	UF3C065030K4S	UJ3C065030B3 UF3C065030B3 (1)	UJ3C065030T3S UF3C065030T3S (1)	UF3SC065030B7S	
	30-39						UF3SC065030D8S
	40-49	UF3C065040K3S	UF3C065040K4S	UF3C065040B3	UF3C065040T3S	UF3SC065040B7S	UF3SC065040D8S
	50-99	UJ3C065080K3S UF3SC065080K3S (1)	UF3C065080K4S	UJ3C065080B3 UF3C065080B3 (1)	UJ3C065080T3S UF3C065080T3S (1)	UF3C065080B7S	
1200V	0-9		UF3SC120009K4S				
	10-19	UF3SC120016K3S	UF3SC120016K4S				
	30-39	UJ3C120040K3S UF3C120040K3S (1)	UF3C120040K4S			UF3SC120040B7S	
	50-99	UJ3C120080K3S UJ3C120070K3S UF3C120080K3S (1)	UF3C120080K4S			UF3C120080B7S	
	150+	UJ3C120150K3S UF3C120400K3S	UF3C120150K4S			UF3C120150B7S	
1700V	150+	UF3C170400K3S					

Notes:

(1) Q(rr) for UF3C FAST device lower than equivalent UJ3C device

All data represents current information as of June 30, 2020.

## SiC JFETs

### UJ3N/UF3N Series Selector Guide | 650V/900V/1200V/1700V

Voltage	Part Number	Description	Package	Rdson (mΩ)	Idmax (A) at 25°C	Samples	Production
1700V	UJ3N1701K2	1.1Ω - 1700V SiC Normally-On JFET	Wafer	1100	3.9	Contact Sales	Now
	UF3N170400	400mΩ - 1700V SiC Normally-On JFET	Wafer	400	8*	Contact Sales	Now
1200V	UF3N120140	140mΩ - 1200V SiC Normally-On JFET	Wafer	140	20*	Contact Sales	
	UJ3N120070	70mΩ - 1200V SiC Normally-On JFET	Wafer	70	33.5	Contact Sales	
	UJ3N120070K3S	70mΩ - 1200V SiC Normally-On JFET	TO-247-3L	70	33.5	Now	Now
	UJ3N120065K3S	66mΩ - 1200V SiC Normally-On JFET	TO-247-3L	66	34	Now	Now
	UJ3N120035	35mΩ - 1200V SiC Normally-On JFET	Wafer	35	63	Contact Sales	
	UJ3N120035K3S	35mΩ - 1200V SiC Normally-On JFET	TO-247-3L	35	63	Now	Now
900V	UF3N090800	735mΩ - 900V SiC Normally-On JFET	Wafer	735	4*	Contact Sales	
	UF3N090350	330mΩ - 900V SiC Normally-On JFET	Wafer	330	8*	Contact Sales	
650V	UF3N065600	580mΩ - 650V SiC Normally-On JFET	Wafer	580	4*	Contact Sales	
	UF3N065300	265mΩ - 650V SiC Normally-On JFET	Wafer	265	8*	Contact Sales	
	UJ3N065080	80mΩ - 650V SiC Normally-On JFET	Wafer	80	32	Contact Sales	
	UJ3N065080K3S	80mΩ - 650V SiC Normally-On JFET	TO-247-3L	80	32	Now	Now
	UJ3N065025	25mΩ - 650V SiC Normally-On JFET	Wafer	25	85	Contact Sales	
	UJ3N065025K3S	25mΩ - 650V SiC Normally-On JFET	TO-247-3L	25	85	Now	Now

\*Note(s):

1) \*Limited by bondwire.

2) Advanced information for wafer parts, please refer to product datasheet for specifications.

## SiC Schottky Diodes

### UJ3D Series Selector Guide | 650V/1200V/1700V

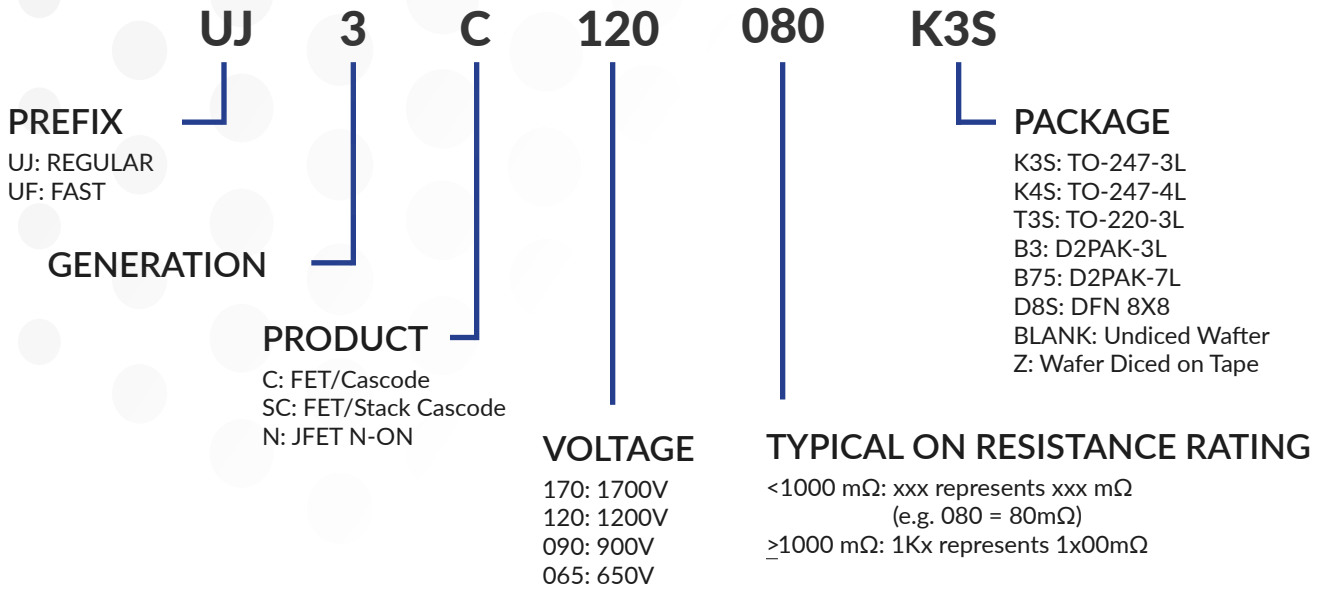
Voltage	Part Number	Current Rating	TO-220-2L	TO-247-3L	TO-247-2L
1700V JBS Diode	UJ3D1725	25A			✓
1200V JBS Diode	UJ3D1202	2A	✓		
	UJ3D1205	5A	✓		
	UJ3D1210 (KSD)	2 x 5A		✓	
	UJ3D1210	10A	✓		✓
	UJ3D1220 (KSD)	2 x 10A		✓	
	UJ3D1220	20A			✓
	UJ3D1250	50A		✓	✓
650V JBS Diode	UJ3D06504	4A	✓		
	UJ3D06506	6A	✓		
	UJ3D06508	8A	✓		
	UJ3D06510	10A	✓		
	UJ3D06512	12A	✓		
	UJ3D06516	16A	✓		
	UJ3D06520	20A	✓	✓	
	UJ3D06530	30A	✓		
	UJ3D06560	2 x 30A			✓

Note(s):

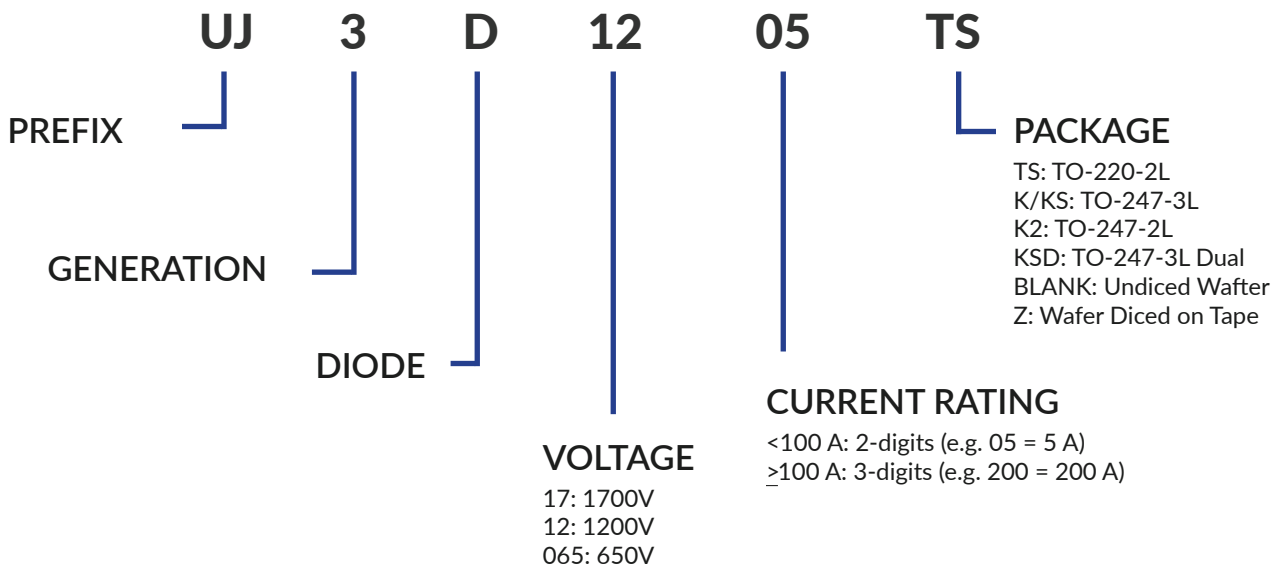
1) For all die inquiries, contact sales@unitedsic.com

2) All data represents current information as of June 30, 2020.

## FET and JFET Part Marking Decoder



## Diode Part Marking Decoder



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