Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (412) 925-7272

Quick Reference Guide

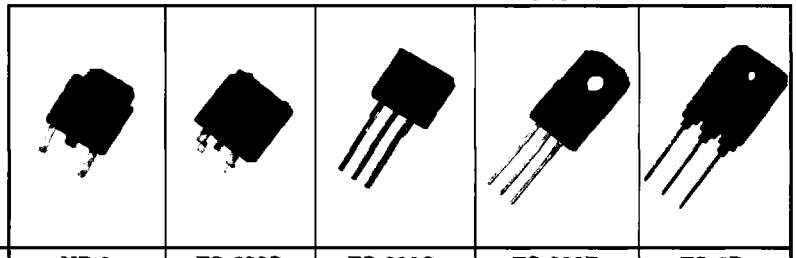
Discrete IGBTs

Strobe Flash Applications

Product Features:

- ☐ Guaranteed Flash Life
- ☐ High Peak Current Capability
- ☐ Compact Package
- ☐ Specified Capacitor Ratings
- ☐ Fast Turn Off
- ☐ 4V - Gate Drive Versions

Strobe Flash Discrete IGBTs (V_{CES} = 400V)



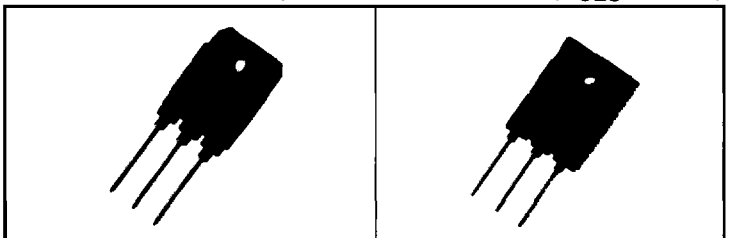
I_C, (A)	MP-3	TO-220S	TO-220C	TO-220F	TO-3P
20	CT20AS-8 CT20ASL-8 CT20ASJ-8	CT20VS-8 CT20VSL-8	CT20VM-8 CT20VML-8	CT20TM-8	—
25	CT25AS-8 CT25ASJ-8	—	—	—	—
30	—	CT30VS-8	CT30VM-8	CT30TM-8	—
35	—	—	—	—	CT35SM-8
40	—	—	—	CT40TMH-8	—

General Purpose Use

Product Features:

- ☐ Low $V_{CE(SAT)}$
- ☐ Large SOA
- ☐ Fast Switching, t_f = 245ns
- ☐ 3rd Generation Chip Technology

3rd Generation General Purpose Discrete IGBTs (V_{CES} = 600V)



I_C, (A)	TO-3P	TO-3PL
30	CT30SM-12	—
75	—	CT75AM-12

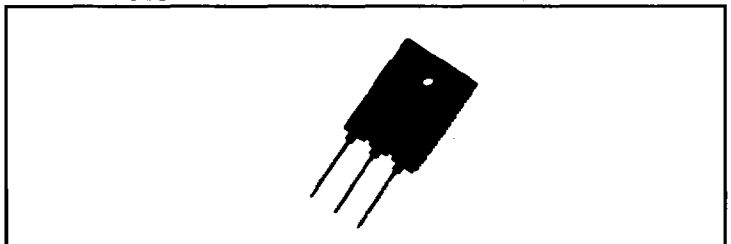
Resonant Switching Applications

Product Features:

- ☐ Low $V_{CE(SAT)}$
- ☐ Fast Turn On
- ☐ 1000V Ratings
- ☐ Optimized for Low Power Loss

Resonant Inverter Discrete IGBTs

(V_{CES} = 900V) (V_{CES} = 1000V)



I_C, (A)	TO-3PL	
60	CT60AM-18B	CT60AM-20

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Discrete MOSFETs - Low Voltage

Table 1 List of n-channel Trench Power MOSFETs with Low Breakdown Voltage

(a) Driver Voltage 10V

I_D (A) \ V_{DSS}	30V	60V	100V	150V
0.1				▲ FS01**-3 ♦ FS01**-3 (14Ω) †
0.2		▲ FS02**-06 ♦ FS02**-06 (2.8Ω) †	▲ FS02**-2 ♦ FS02**-2 (8.2Ω) †	
0.3	▲ FS03**-03 ♦ FS03**-03 (2.0Ω) †			
1				♦ FS1**-3 (1.35Ω) †
2		♦ FS2**-06 (0.28Ω) †	♦ FS2**-2 (0.78Ω) †	◇ FS2AS-3 ● FS2KM-3 ○ FS2UM-3 ■ FS2VS-3 (0.8Ω)
5	♦ FS5**-03 (0.22Ω) †	◇ FS5AS-06 ● FS5KM-06 ○ FS5UM-06 ■ FS5VS-06 (0.16Ω)	◇ FS5AS-2 ● FS5KM-2 ○ FS5UM-2 ■ FS5VS-2 (0.47Ω)	◇ FS5AS-3 ● FS5KM-3 ○ FS5UM-3 ■ FS5VS-3 □ FS5SM-3 (0.38Ω)
10	◇ FS10AS-03 ● FS10KM-03 ○ FS10UM-03 ■ FS10VS-03 (95mΩ)	◇ FS10AS-06 ● FS10KM-06 ○ FS10UM-06 ■ FS10VS-06 □ FS10SM-06 (78mΩ)	◇ FS10AS-2 ● FS10KM-2 ○ FS10UM-2 ■ FS10VS-2 □ FS10SM-2 (0.23Ω)	◇ FS10AS-3 ● FS10KM-3 ○ FS10UM-3 ■ FS10VS-3 □ FS10SM-3 (0.17Ω)
30	◇ FS30AS-03 ● FS30KM-03 ○ FS30UM-03 ■ FS30VS-03 □ FS30SM-03 (46mΩ)	◇ FS30AS-06 ● FS30KM-06 ○ FS30UM-06 ■ FS30VS-06 □ FS30SM-06 (30mΩ)	◇ FS30AS-2 ● FS30KM-2 ○ FS30UM-2 ■ FS30VS-2 □ FS30SM-2 (100mΩ)	● FS30KM-3 ○ FS30UM-3 ■ FS30VS-3 □ FS30SM-3 (92mΩ)
50	◇ FS50AS-03 ● FS50KM-03 ○ FS50UM-03 ■ FS50VS-03 □ FS50SM-03 (23mΩ)	● FS50KM-06 ○ FS50UM-06 ■ FS50VS-06 □ FS50SM-06 (22mΩ)	● FS50KM-2 ○ FS50UM-2 ■ FS50VS-2 □ FS50SM-2 (55mΩ)	● FS50KM-3 ○ FS50UM-3 ■ FS50VS-3 □ FS50SM-3 (31mΩ)
70	● FS70KM-03 ○ FS70UM-03 ■ FS70VS-03 □ FS70SM-03 (14mΩ)	● FS70KM-06 ○ FS70UM-06 ■ FS70VS-06 □ FS70SM-06 (7.5mΩ)	● FS70KM-2 ○ FS70UM-2 ■ FS70VS-2 □ FS70SM-2 (20mΩ)	
100	● FS100KM-03 ○ FS100UM-03 ■ FS100VS-03 □ FS100SM-03 (5.4mΩ)			

(b) Driver Voltage 4.0V

I_D (A) \ V_{DSS}	30V	60V	100V	150V
0.1				▲ FS01**J-3 ♦ FS01**J-3 (12.9Ω) †
0.2		▲ FS02**J-06 ♦ FS02**J-06 (2.4Ω) †	▲ FS02**J-2 ♦ FS02**J-2 (6.9Ω) †	
0.3	▲ FS03**J-03 ♦ FS03**J-03 (1.65Ω) †			
1				♦ FS1**J-3 (1.2Ω) †
2		♦ FS2**J-06 (0.24Ω) †	♦ FS2**J-2 (0.66Ω) †	◇ FS2ASJ-3 ● FS2KMJ-3 ○ FS2UMJ-3 ■ FS2VSJ-3 (0.75Ω)
5	♦ FS5**J-03 (0.17Ω) †	◇ FS5ASJ-06 ● FS5KMJ-06 ○ FS5UMJ-06 ■ FS5VSJ-06 (0.14Ω)	◇ FS5ASJ-2 ● FS5KMJ-2 ○ FS5UMJ-2 ■ FS5VSJ-2 (0.4Ω)	◇ FS5ASJ-3 ● FS5KMJ-3 ○ FS5UMJ-3 ■ FS5VSJ-3 □ FS5SMJ-3 (0.35Ω)
10	◇ FS10ASJ-03 ● FS10KMJ-03 ○ FS10UMJ-03 ■ FS10VSJ-03 (75mΩ)	◇ FS10ASJ-06 ● FS10KMJ-06 ○ FS10UMJ-06 ■ FS10VSJ-06 □ FS10SMJ-06 (70mΩ)	◇ FS10ASJ-2 ● FS10KMJ-2 ○ FS10UMJ-2 ■ FS10VSJ-2 □ FS10SMJ-2 (0.19Ω)	◇ FS10ASJ-3 ● FS10KMJ-3 ○ FS10UMJ-3 ■ FS10VSJ-3 □ FS10SMJ-3 (0.16Ω)
30	◇ FS30ASJ-03 ● FS30KMJ-03 ○ FS30UMJ-03 ■ FS30VSJ-03 □ FS30SMJ-03 (38mΩ)	◇ FS30ASJ-06 ● FS30KMJ-06 ○ FS30UMJ-06 ■ FS30VSJ-06 □ FS30SMJ-06 (30mΩ)	◇ FS30ASJ-2 ● FS30KMJ-2 ○ FS30UMJ-2 ■ FS30VSJ-2 □ FS30SMJ-2 (84mΩ)	● FS30KMJ-3 ○ FS30UMJ-3 ■ FS30VSJ-3 □ FS30SMJ-3 (86mΩ)
50	◇ FS50ASJ-03 ● FS50KMJ-03 ○ FS50UMJ-03 ■ FS50VSJ-03 □ FS50SMJ-03 (19mΩ)	● FS50KMJ-06 ○ FS50UMJ-06 ■ FS50VSJ-06 □ FS50SMJ-06 (20mΩ)	● FS50KMJ-2 ○ FS50UMJ-2 ■ FS50VSJ-2 □ FS50SMJ-2 (48mΩ)	● FS50KMJ-3 ○ FS50UMJ-3 ■ FS50VSJ-3 □ FS50SMJ-3 (30mΩ)
70	● FS70KMJ-03 ○ FS70UMJ-03 ■ FS70VSJ-03 □ FS70SMJ-03 (12mΩ)	● FS70KMJ-06 ○ FS70UMJ-06 ■ FS70VSJ-06 □ FS70SMJ-06 (7mΩ)	● FS70KMJ-2 ○ FS70UMJ-2 ■ FS70VSJ-2 □ FS70SMJ-2 (17mΩ)	
100	● FS100KMJ-03 ○ FS100UMJ-03 ■ FS100VSJ-03 □ FS100SMJ-03 (4.7mΩ)			

Values with Ω in parentheses show the maximum on-resistance when voltage V_{GS} = 10V. NOTE: The on-resistance value may change due to this being a tentative plan.
† - This product is under development.

▲ SC-59
Small Package
FS**
FX**

♦ SOT-89
SOT89
FS**
FX**

◇ MP-3
FS**AS-**
FS**ASJ-**
FS**ASH-**
FX**AS-**

■ TO-220S
FS**VS-**
FS**VSJ-**
FS**VSH-**
FX**VS-**

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Quick Reference Guide

Table 2 List of p-channel Trench Power MOSFETs with Low Breakdown Voltage

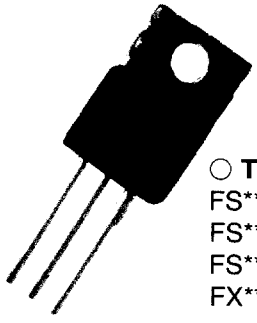
(c) Driver Voltage 2.5V

I_D (A) \ V_{DSS}	30V	60V	100V	150V
0.1				▲ FS01**H-3 ♦ FS01**H-3 (13Ω) †
0.2		▲ FS02**H-06 ♦ FS02**H-06 (2.6Ω) †	▲ FS02**H-2 ♦ FS02**H-2 (7.6Ω) †	
0.3	▲ FS03**H-03 ♦ FS03**H-03 (1.9Ω) †			
1				♦ FS1**H-3 (1.25Ω) †
2		♦ FS2**H-06 (0.26Ω) †	♦ FS2**H-2 (0.72Ω) †	◇ FS2ASH-3 ● FS2KMH-3 ○ FS2UMH-3 ■ FS2VSH-3 (0.75Ω)
5	♦ FS5**H-03 (0.2Ω) †	◇ FS5ASH-06 ● FS5KMH-06 ○ FS5UMH-06 ■ FS5VSH-06 (0.15Ω)	◇ FS5ASH-2 ● FS5KMH-2 ○ FS5UMH-2 ■ FS5VSH-2 (0.44Ω)	◇ FS5ASH-3 ● FS5KMH-3 ○ FS5UMH-3 ■ FS5VSH-3 ■ FS5SMH-3 (0.35Ω)
10	◇ FS10ASH-03 ● FS10KMH-03 ○ FS10UMH-03 ■ FS10VSH-03 (92mΩ)	◇ FS10ASH-06 ● FS10KMH-06 ○ FS10UMH-06 ■ FS10VSH-06 □ FS10SMH-06 (73mΩ)	◇ FS10ASH-2 ● FS10KMH-2 ○ FS10UMH-2 ■ FS10VSH-2 □ FS10SMH-2 (0.21Ω)	◇ FS10ASH-3 ● FS10KMH-3 ○ FS10UMH-3 ■ FS10VSH-3 □ FS10SMH-3 (0.16Ω)
30	◇ FS30ASH-03 ● FS30KMH-03 ○ FS30UMH-03 ■ FS30VSH-03 □ FS30SMH-03 (46mΩ)	◇ FS30ASH-06 ● FS30KMH-06 ○ FS30UMH-06 ■ FS30VSH-06 □ FS30SMH-06 (30mΩ)	◇ FS30ASH-2 ● FS30KMH-2 ○ FS30UMH-2 ■ FS30VSH-2 □ FS30SMH-2 (93mΩ)	● FS30KMH-3 ○ FS30UMH-3 ■ FS30VSH-3 □ FS30SMH-3 (87mΩ)
50	◇ FS50ASH-03 ● FS50KMH-03 ○ FS50UMH-03 ■ FS50VSH-03 □ FS50SMH-03 (22mΩ)	● FS50KMH-06 ○ FS50UMH-06 ■ FS50VSH-06 □ FS50SMH-06 (21mΩ)	● FS50KMH-2 ○ FS50UMH-2 ■ FS50VSH-2 □ FS50SMH-2 (52mΩ)	● FS50KMH-3 ○ FS50UMH-3 ■ FS50VSH-3 □ FS50SMH-3 (30mΩ)
70	● FS70KMH-03 ○ FS70UMH-03 ■ FS70VSH-03 □ FS70SMH-03 (14mΩ)	● FS70KMH-06 ○ FS70UMH-06 ■ FS70VSH-06 □ FS70SMH-06 (7.5mΩ)	● FS70KMH-2 ○ FS70UMH-2 ■ FS70VSH-2 □ FS70SMH-2 (19mΩ)	
100	● FS100KMH-03 ○ FS100UMH-03 ■ FS100VSH-03 □ FS100SMH-03 (5.4mΩ)			

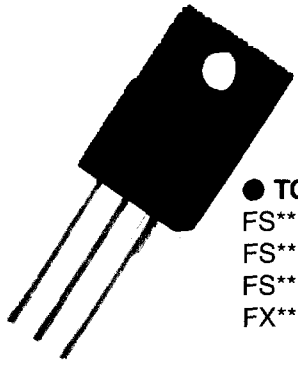
(a) Driver Voltage -10V

I_D (A) \ V_{DSS}	-30V	-60V	-100V	-150V
-0.1		▲ FX01**-06 ♦ FX01**-06 (9.3Ω) †	▲ FX01**-2 ♦ FX01**-2 †	▲ FX01**-3 ♦ FX01**-3 †
-0.2	▲ FX02**-03 ♦ FX02**-03 (5.7Ω) †			
-0.5				♦ FX05**-3†
-1		♦ FX1**-06 (0.9Ω) †	♦ FX1**-2 †	◇ FX1AS-3 ● FX1KM-3 ○ FX1UM-3 ■ FX1VS-3 †
-3	♦ FX3**-03 (0.55Ω) †	◇ FX3AS-06 ● FX3KM-06 ○ FX3UM-06 ■ FX3VS-06 (0.54Ω)	◇ FX3AS-2 ● FX3KM-2 ○ FX3UM-2 ■ FX3VS-2 †	◇ FX3AS-3 ● FX3KM-3 ○ FX3UM-3 ■ FX3VS-3 □ FX3SM-3 †
-6	◇ FX6AS-03 ● FX6KM-03 ○ FX6UM-03 ■ FX6VS-03 (0.33Ω)	◇ FX6AS-06 ● FX6KM-06 ○ FX6UM-06 ■ FX6VS-06 □ FX6SM-06 (0.24Ω)	◇ FX6AS-2 ● FX6KM-2 ○ FX6UM-2 ■ FX6VS-2 □ FX6SM-2 †	◇ FX6AS-3 ● FX6KM-3 ○ FX6UM-3 ■ FX6VS-3 □ FX6SM-3 †
-20	◇ FX20AS-03 ● FX20KM-03 ○ FX20UM-03 ■ FX20VS-03 □ FX20SM-03 (0.15Ω)	◇ FX20AS-06 ● FX20KM-06 ○ FX20UM-06 ■ FX20VS-06 □ FX20SM-06 (0.12mΩ)	◇ FX20AS-2 ● FX20KM-2 ○ FX20UM-2 ■ FX20VS-2 □ FX20SM-2 †	● FX20KM-3 ○ FX20UM-3 ■ FX20VS-3 □ FX20SM-3 †
-30	◇ FX30AS-03 ● FX30KM-03 ○ FX30UM-03 ■ FX30VS-03 □ FX30SM-03 (71mΩ)	● FX30KM-06 ○ FX30UM-06 ■ FX30VS-06 □ FX30SM-06 (63mΩ)	● FX30KM-2 ○ FX30UM-2 ■ FX30VS-2 □ FX30SM-2 †	● FX30KM-3 ○ FX30UM-3 ■ FX30VS-3 □ FX30SM-3 †
-50	● FX50KM-03 ○ FX50UM-03 ■ FX50VS-03 □ FX50SM-03 (40mΩ)	● FX50KM-06 ○ FX50UM-06 ■ FX50VS-06 □ FX50SM-06 (22mΩ)	● FX50KM-2 ○ FX50UM-2 ■ FX50VS-2 □ FX50SM-2 †	
-70	● FX70KM-03 ○ FX70UM-03 ■ FX70VS-03 □ FX70SM-03 (14.1mΩ)			

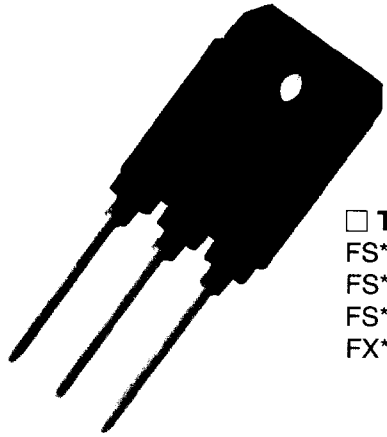
Values with Ω in parentheses show the maximum on-resistance when voltage V_{GS} = 10V. NOTE: The on-resistance value may change due to this being a tentative plan.
† - This product is under development.



○ **TO-220**
FS**UM-**
FS**UMJ-**
FS**UMH-**
FX**UM-**



● **TO-220FN**
FS**KM-**
FS**KMJ-**
FS**KMH-**
FX**KM-**



□ **TO-3P**
FS**SM-**
FS**SMJ-**
FS**SMH-**
FX**SM-**

Discrete MOSFETs - Low Voltage

Table 2 List of p-channel Trench Power MOSFETs with Low Breakdown Voltage (continued)

(b) Driver Voltage -4.0V

I_D (A) \ V_{DSS}	-30V	-60V	-100V	-150V
-0.1		▲ FX01J**-06 ♦ FX01J**-06 (7.9Ω) †	▲ FX01J**-2 ♦ FX01J**-2 †	▲ FX01J**-3 ♦ FX01J**-3 †
-0.2	▲ FX02J**-03 ♦ FX02J**-03 (4.9Ω) †			
-0.5				♦ FX05J**-3†
-1		♦ FX1J**-06 (0.77Ω) †	♦ FX1**J-2 †	◇ FX1ASJ-3 ● FX1KMJ-3 ○ FX1UMJ-3 ■ FX1VSJ-3 †
-3	♦ FX3**J-03 (0.48Ω) †	◇ FX3ASJ-06 ● FX3KMJ-06 ○ FX3UMJ-06 ■ FX3VSJ-06 (0.46Ω)	◇ FX3ASJ-2 ● FX3KMJ-2 ○ FX3UMJ-2 ■ FX3VSJ-2 †	◇ FX3ASJ-3 ● FX3KMJ-3 ○ FX3UMJ-3 ■ FX3VSJ-3 □ FX3SMJ-3 †
-6	◇ FX6ASJ-03 ● FX6KMJ-03 ○ FX6UMJ-03 ■ FX6VSJ-03 (0.29Ω)	◇ FX6ASJ-06 ● FX6KMJ-06 ○ FX6UMJ-06 ■ FX6VSJ-06 □ FX6SMJ-06 (0.21Ω)	◇ FX6ASJ-2 ● FX6KMJ-2 ○ FX6UMJ-2 ■ FX6VSJ-2 □ FX6SMJ-2 †	◇ FX6ASJ-3 ● FX6KMJ-3 ○ FX6UMJ-3 ■ FX6VSJ-3 □ FX6SMJ-3 †
-20	◇ FX20ASJ-03 ● FX20KMJ-03 ○ FX20UMJ-03 ■ FX20VSJ-03 □ FX20SMJ-03 (0.13Ω)	◇ FX20ASJ-06 ● FX20KMJ-06 ○ FX20UMJ-06 ■ FX20VSJ-06 □ FX20SMJ-06 (97mΩ)	◇ FX20ASJ-2 ● FX20KMJ-2 ○ FX20UMJ-2 ■ FX20VSJ-2 □ FX20SMJ-2 †	● FX20KMJ-3 ○ FX20UMJ-3 ■ FX20VSJ-3 □ FX20SMJ-3 †
-30	◇ FX30ASJ-03 ● FX30KMJ-03 ○ FX30UMJ-03 ■ FX30VSJ-03 □ FX30SMJ-03 (61mΩ)	● FX30KMJ-06 ○ FX30UMJ-06 ■ FX30VSJ-06 □ FX30SMJ-06 (54mΩ)	● FX30KMJ-2 ○ FX30UMJ-2 ■ FX30VSJ-2 □ FX30SMJ-2 †	● FX30KMJ-3 ○ FX30UMJ-3 ■ FX30VSJ-3 □ FX30SMJ-3 †
-50	● FX50KMJ-03 ○ FX50UMJ-03 ■ FX50VSJ-03 □ FX50SMJ-03 (34.5mΩ)	● FX50KMJ-06 ○ FX50UMJ-06 ■ FX50VSJ-06 □ FX50SMJ-06 (15.9mΩ)	● FX50KMJ-2 ○ FX50UMJ-2 ■ FX50VSJ-2 □ FX50SMJ-2 †	
-70	● FX70KMJ-03 ○ FX70UMJ-03 ■ FX70VSJ-03 □ FX70SMJ-03 (12.3mΩ)			

(c) Driver Voltage -2.5V

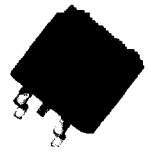
I_D (A) \ V_{DSS}	-30V	-60V	-100V	-150V
-0.1		▲ FX01H**-06 ♦ FX01H**-06 (8.9Ω) †	▲ FX01H**-2 ♦ FX01H**-2 †	▲ FX01H**-3 ♦ FX01H**-3 †
-0.2	▲ FX02H**-03 ♦ FX02H**-03 (5.5Ω) †			
-0.5				♦ FX05H**-3†
-1		♦ FX1H**-06 (0.86Ω) †	♦ FX1**H-2 †	◇ FX1ASH-3 ● FX1KMH-3 ○ FX1UMH-3 ■ FX1VSH-3 †
-3	♦ FX3**H-03 (0.53Ω) †	◇ FX3ASH-06 ● FX3KMH-06 ○ FX3UMH-06 ■ FX3VSH-06 (0.52Ω)	◇ FX3ASH-2 ● FX3KMH-2 ○ FX3UMH-2 ■ FX3VSH-2 †	◇ FX3ASH-3 ● FX3KMH-3 ○ FX3UMH-3 ■ FX3VSH-3 □ FX3SMH-3 †
-6	◇ FX6ASH-03 ● FX6KMH-03 ○ FX6UMH-03 ■ FX6VSH-03 (0.32Ω)	◇ FX6ASH-06 ● FX6KMH-06 ○ FX6UMH-06 ■ FX6VSH-06 □ FX6SMH-06 (0.23Ω)	◇ FX6ASH-2 ● FX6KMH-2 ○ FX6UMH-2 ■ FX6VSH-2 □ FX6SMH-2 †	◇ FX6ASH-3 ● FX6KMH-3 ○ FX6UMH-3 ■ FX6VSH-3 □ FX6SMH-3 †
-20	◇ FX20ASH-03 ● FX20KMH-03 ○ FX20UMH-03 ■ FX20VSH-03 □ FX20SMH-03 (0.14Ω)	◇ FX20ASH-06 ● FX20KMH-06 ○ FX20UMH-06 ■ FX20VSH-06 □ FX20SMH-06 (0.11Ω)	◇ FX20ASH-2 ● FX20KMH-2 ○ FX20UMH-2 ■ FX20VSH-2 □ FX20SMH-2 †	● FX20KMH-3 ○ FX20UMH-3 ■ FX20VSH-3 □ FX20SMH-3 †
-30	◇ FX30ASH-03 ● FX30KMH-03 ○ FX30UMH-03 ■ FX30VSH-03 □ FX30SMH-03 (68mΩ)	● FX30KMH-06 ○ FX30UMH-06 ■ FX30VSH-06 □ FX30SMH-06 (60mΩ)	● FX30KMH-2 ○ FX30UMH-2 ■ FX30VSH-2 □ FX30SMH-2 †	● FX30KMH-3 ○ FX30UMH-3 ■ FX30VSH-3 □ FX30SMH-3 †
-50	● FX50KMH-03 ○ FX50UMH-03 ■ FX50VSH-03 □ FX50SMH-03 (38.5mΩ)	● FX50KMH-06 ○ FX50UMH-06 ■ FX50VSH-06 □ FX50SMH-06 (21.1mΩ)	● FX50KMH-2 ○ FX50UMH-2 ■ FX50VSH-2 □ FX50SMH-2 †	
-70	● FX70KMH-03 ○ FX70UMH-03 ■ FX70VSH-03 □ FX70SMH-03 (13.6mΩ)			

Values with Ω in parentheses show the maximum on-resistance when voltage V_{GS} = 10V. NOTE: The on-resistance value may change due to this being a tentative plan.
† - This product is under development.

▲ SC-59
Small Package
FX**

♦ SOT-89
SOT89
FX**

◇ MP-3
FX**ASJ-**
FX**ASH-**



■ TO-220S
FS**VS-**
FX**VSJ-**
FX**VSH-**

Discrete MOSFETs - Medium Voltage

FS Series MOSFETs (250 ~ 600V)

SMPS Applications

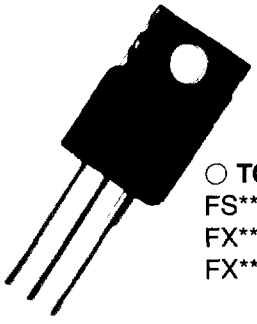
Product Features:

- ☐ Surface Mount Package Available
- ☐ KM - Package Isolation to 2000V RMS
- ☐ Low $r_{DS(on)}$ (0.43Ω @ 600V/20A)

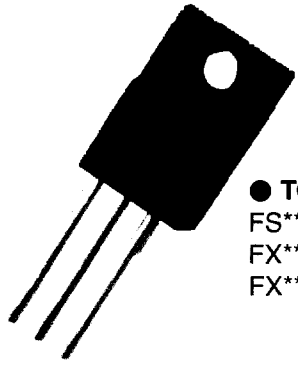
FS n-channel MOSFETs I-V Map

I_D, (A) \ V_{DSS}	250V	300V	450V	500V	600V
2					● FS2KM-12 ○ FS2UM-12 ■ FS2VS-12 (6.4Ω)
3			● FS3KM-9 ○ FS3UM-9 ■ FS3VS-9 (3.5Ω)	● FS3KM-10 ○ FS3UM-10 ■ FS3VS-10 (4.4Ω)	
4					● FSKM-12 ○ FSUM-12 ■ FSVS-12 (2.6Ω)
5	● FS5KM-5 ○ FS5UM-5 ■ FS5VS-5 (1.3Ω)	● FS5KM-6 ○ FS5UM-6 ■ FS5VS-6 (1.6Ω)	● FS5KM-9 ○ FS5UM-9 ■ FS5VS-9 (1.4Ω)	● FS5KM-10 ○ FS5UM-10 ■ FS5VS-10 (1.8Ω)	
7	● FS7KM-5 ○ FS7UM-5 ■ FS7VS-5 (0.8Ω)				● FS7KM-12 ○ FS7UM-12 ■ FS7VS-12 ☐ FS7SM-12 (1.3Ω)
10	● FS10KM-5 ○ FS10UM-5 ■ FS10VS-5 (0.52Ω)	● FS10KM-6 ○ FS10UM-6 ■ FS10VS-6 (0.68Ω)	● FS10KM-9 ○ FS10UM-9 ■ FS10VS-9 ☐ FS10SM-9 (0.73Ω)	● FS10KM-10 ○ FS10UM-10 ■ FS10VS-10 ☐ FS10SM-10 (0.90Ω)	● FS10KM-12 ○ FS10UM-12 ■ FS10VS-12 ☐ FS10SM-12 (0.94Ω)
12	● FS12KM**-5 ○ FS12UM**-5 ■ FS12VS**-5 (0.4Ω)				
14			● FS14KM-9 ○ FS14UM-9 ■ FS14VS-9 ☐ FS14SM-9 (0.52Ω)	● FS14KM-10 ○ FS14UM-10 ■ FS14VS-10 ☐ FS14SM-10 (0.64Ω)	☐ FS14SM-12 (0.60Ω)
16	● FS16KM-5 ○ FS16UM-5 ■ FS16VS-5 ☐ FS16SM-5 (0.25Ω)	● FS16KM-6 ○ FS16UM-6 ■ FS16VS-6 ☐ FS16SM-6 (0.33Ω)	● FS16KM-9 ○ FS16UM-9 ■ FS16VS-9 ☐ FS16SM-9 (0.45Ω)	● FS16KM-10 ○ FS16UM-10 ■ FS16VS-10 ☐ FS16SM-10 (0.56Ω)	
18			☐ FS18SM-9 (0.33Ω)	☐ FS18SM-10 (0.40Ω)	
20	● FS20KM-5 ○ FS20UM-5 ■ FS20VS-5 ☐ FS20SM-5 (0.19Ω)	● FS20KM-6 ○ FS20UM-6 ■ FS20VS-6 ☐ FS20SM-6 (0.26Ω)			☐ FS20SM-12 (0.43Ω)
22			☐ FS22SM-9 (0.24Ω)	☐ FS22SM-10 (0.29Ω)	
30	☐ FS30SM-5 (0.13Ω)	☐ FS30SM-6 (0.17Ω)			
40	☐ FS40SM-5 (0.086Ω)	☐ FS40SM-6 (0.114Ω)			

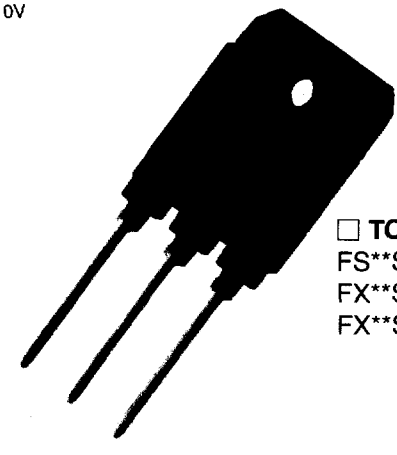
(Ω) - shows maximum value of on-resistance at V_{GS} = 10V



○ **TO-220**
FS**UM-**
FX**UMJ-**
FX**UMH-**



● **TO-220FN**
FS**KM-**
FX**KMJ-**
FX**KMH-**



☐ **TO-3P**
FS**SM-**
FX**SMJ-**
FX**SMH-**

Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (412) 925-7272

Discrete MOSFETs - Medium Voltage

FK Series MOSFETs (250 ~ 600V)

Inverter Applications (UPS / Motor Control)

Product Features:

- ☐ Integrated Fast Recovery Free-Wheel Diode (t_{rr} = 150ns)
- ☐ Low $r_{DS(on)}$ (0.54Ω @ 600V/18A)

FK n-channel MOSFETs I-V Map

I_D, (A) \ V_{DSS}	250V	300V	450V	500V	600V
7					● FK7KM-12 ○ FK7UM-12 ■ FK7VS-12 ☐ FK7SM-12 (1.65Ω)
10			● FK10KM-9 ○ FK10UM-9 ■ FK10VS-9 ☐ FK10SM-9 (0.92Ω)	● FK10KM-10 ○ FK10UM-10 ■ FK10VS-10 ☐ FK10SM-10 (1.13Ω)	● FK10KM-12 ○ FK10UM-12 ■ FK10VS-12 ☐ FK10SM-12 (1.18Ω)
14			● FK14KM-9 ○ FK14UM-9 ■ FK14VS-9 ☐ FK14SM-9 (0.65Ω)	● FK14KM-10 ○ FK14UM-10 ■ FK14VS-10 ☐ FK14SM-10 (0.80Ω)	☐ FK14SM-12 (0.75Ω)
16	● FK16KM-5 ○ FK16UM-5 ■ FK16VS-5 ☐ FK16SM-5 (0.31Ω)	● FK16KM-6 ○ FK16UM-6 ■ FK16VS-6 ☐ FK16SM-6 (0.41Ω)			
18			☐ FK18SM-9 (0.41Ω)	☐ FK18SM-10 (0.50Ω)	☐ FK18SM-12 (0.54Ω)
20	● FK20KM-5 ○ FK20UM-5 ■ FK20VS-5 ☐ FK20SM-5 (0.24Ω)	● FK20KM-6 ○ FK20UM-6 ■ FK20VS-6 ☐ FK20SM-6 (0.33Ω)	☐ FK20SM-9 (0.30Ω)	☐ FK20SM-10 (0.36Ω)	
30	☐ FK30SM-5 (0.16Ω)	☐ FK30SM-6 (0.21Ω)			
40	☐ FK40SM-5 (0.108Ω)	☐ FK40SM-6 (0.143Ω)			

(Ω) - shows maximum value of on-resistance at V_{GS} = 10V

◇ **MP-3**
FS**AS-**

■ **TO-220S**
FK**VS-**
FS**VS-**

Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (412) 925-7272

Discrete MOSFETs - High Voltage

FS-IV Series MOSFETs (700 ~ 900V)

SMPS Applications

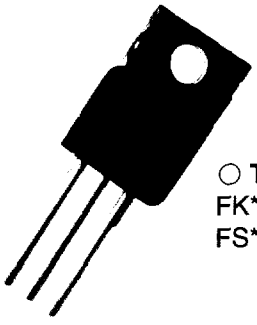
Product Features:

- ☐ Surface Mount Package Available
- ☐ KM - Package Isolation to 2000V RMS
- ☐ Low $r_{DS(on)}$ (0.85Ω @ 900V/14A)

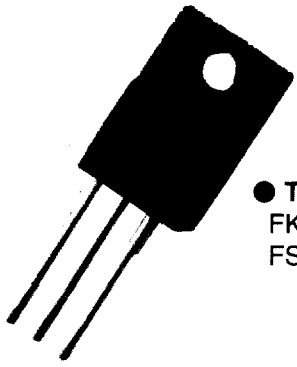
FS-IV n-channel MOSFETs IV Map

I_D, (A) \ V_{DSS}	700V	800V	900V
1		◇ FS1AS-16A ● FS1KM-16A ○ FS1UM-16A ■ FS1VS-16A (12.3Ω)	◇ FS1AS-18A ● FS1KM-18A ○ FS1UM-18A ■ FS1VS-18A (15.0Ω)
2	◇ FS2AS-14A ● FS2KM-14A ○ FS2UM-14A ■ FS2VS-14A (9.75Ω)	● FS2KM-16A ○ FS2UM-16A ■ FS2VS-16A (6.0Ω)	● FS2KM-18A ○ FS2UM-18A ■ FS2VS-18A (7.3Ω)
3	● FS3KM-14A ○ FS3UM-14A ■ FS3VS-14A ☐ FS3SM-14A (4.75Ω)	● FS3KM-16A ○ FS3UM-16A ■ FS3VS-16A ☐ FS3SM-16A (3.3Ω)	● FS3KM-18A ○ FS3UM-18A ■ FS3VS-18A ☐ FS3SM-18A (4.0Ω)
5	● FS5KM-14A ○ FS5UM-14A ■ FS5VS-14A ☐ FS5SM-14A (2.6Ω)	● FS5KM-16A ○ FS5UM-16A ■ FS5VS-16A ☐ FS5SM-16A (2.3Ω)	● FS5KM-18A ○ FS5UM-18A ■ FS5VS-18A ☐ FS5SM-18A (2.8Ω)
7	● FS7KM-14A ○ FS7UM-14A ■ FS7VS-14A ☐ FS7SM-14A (1.82Ω)	● FS7KM-16A ○ FS7UM-16A ■ FS7VS-16A ☐ FS7SM-16A (1.64Ω)	● FS7KM-18A ○ FS7UM-18A ■ FS7VS-18A ☐ FS7SM-18A (2.0Ω)
10	● FS10KM-14A ○ FS10UM-14A ■ FS10VS-14A ☐ FS10SM-14A (1.3Ω)	☐ FS10SM-16A (0.98Ω)	☐ FS10SM-18A (1.2Ω)
14	☐ FS14SM-14A (0.78Ω)	☐ FS14SM-16A (0.70Ω)	☐ FS14SM-18A (0.85Ω)
18	☐ FS18SM-14A (0.55Ω)		

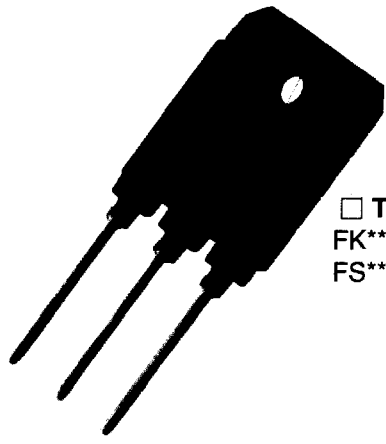
(Ω) - shows maximum value of on-resistance at V_{GS} = 10V



○ **TO-220**
FK**UM-**
FS**UM-**



● **TO-220FN**
FK**KM-**
FS**KM-**



☐ **TO-3P**
FK**SM-**
FS**SM-**