



STP8NC50 STP8NC50FP

N-CHANNEL 500V - 0.7Ω - 8A TO-220/TO-220FP

PowerMesh™ II MOSFET

TYPE	V _{DSS}	R _{DS(on)}	I _D
STP8NC50	500 V	< 0.85 Ω	8 A
STP8NC50FP	500 V	< 0.85 Ω	8 A

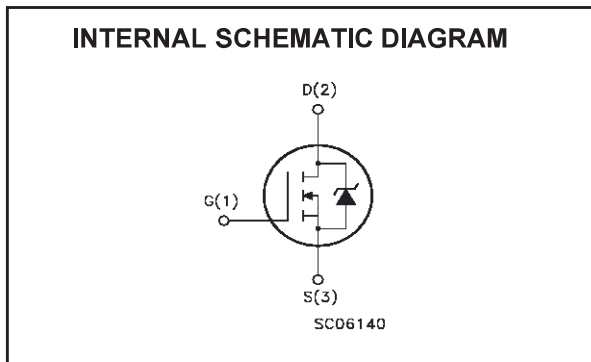
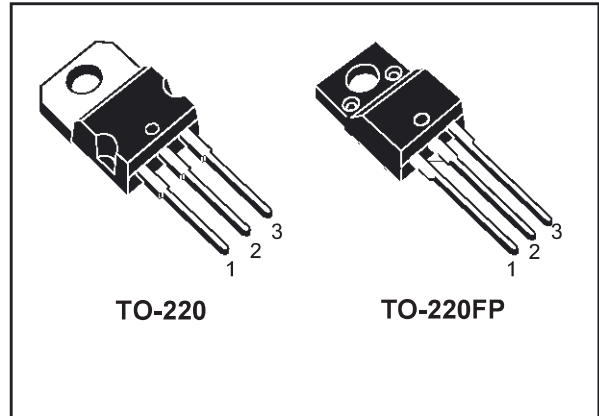
- TYPICAL R_{DS(on)} = 0.7 Ω
- EXTREMELY HIGH dv/dt CAPABILITY
- 100% AVALANCHE TESTED
- NEW HIGH VOLTAGE BENCHMARK
- GATE CHARGE MINIMIZED

DESCRIPTION

The PowerMESH™ II is the evolution of the first generation of MESH OVERLAY™. The layout refinements introduced greatly improve the Ron*area figure of merit while keeping the device at the leading edge for what concerns switching speed, gate charge and ruggedness.

APPLICATIONS

- HIGH CURRENT, HIGH SPEED SWITCHING
- SWITCH MODE POWER SUPPLIES (SMPS)
- DC-AC CONVERTERS FOR WELDING EQUIPMENT AND UNINTERRUPTIBLE POWER SUPPLIES AND MOTOR DRIVES



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		STP8NC50	STP8NC50FP	
V _{DS}	Drain-source Voltage (V _{GS} = 0)	500		V
V _{DGR}	Drain-gate Voltage (R _{GS} = 20 kΩ)	500		V
V _{GS}	Gate- source Voltage	±30		V
I _D	Drain Current (continuous) at T _C = 25°C	8	8(*)	A
I _D	Drain Current (continuous) at T _C = 100°C	5.4	5.4(*)	A
I _{DM} (●)	Drain Current (pulsed)	32	32(*)	A
P _{TOT}	Total Dissipation at T _C = 25°C	135	40	W
	Derating Factor	1	0.32	W/°C
dv/dt (1)	Peak Diode Recovery voltage slope	3		V/ns
V _{ISO}	Insulation Withstand Voltage (DC)	-	2000	V
T _{stg}	Storage Temperature	-65 to 150		°C
T _j	Max. Operating Junction Temperature	150		°C

(●) Pulse width limited by safe operating area

(*) Limited only by maximum temperature allowed

(1) I_{SD} ≤ 8A, di/dt ≤ 100A/μs, V_{DD} ≤ V_{(BR)DSS}, T_j ≤ T_{JMAX}.