

isc N-Channel MOSFET Transistor

FS50UM-3

• FEATURES

- With TO-220 packaging
- High speed switching
- Very high commutation ruggedness
- Easy to use
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

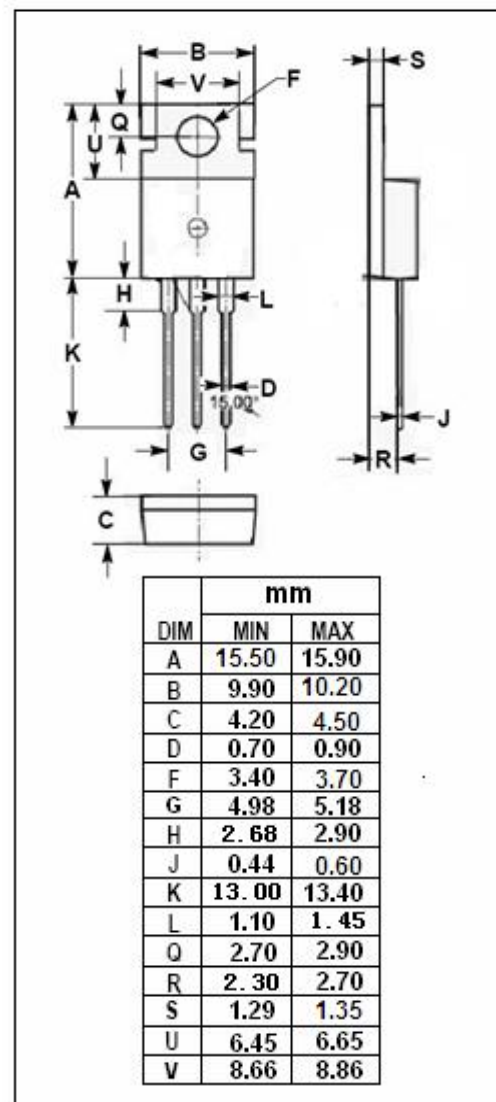
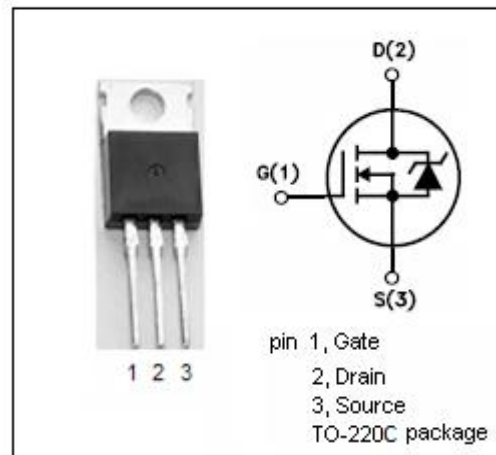
- PFC stages
- LCD & PDP TV
- Power supply
- Switching applications

• ABSOLUTE MAXIMUM RATINGS($T_a=25^{\circ}\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	150	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current-Continuous	50	A
I_{DM}	Drain Current-Single Pulsed	200	A
P_D	Total Dissipation	125	W
T_j	Operating Junction Temperature	-55~150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55~150	$^{\circ}\text{C}$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	1.0	$^{\circ}\text{C/W}$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	62.5	$^{\circ}\text{C/W}$



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ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V; I_D=1mA$	150			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=1mA$	2.0		4.0	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V; I_D=25A$		24	31	$m\Omega$
I_{GSS}	Gate-Source Leakage Current	$V_{GS}= \pm 20V; V_{DS}= 0V$			± 0.1	μA
I_{DSS}	Drain-Source Leakage Current	$V_{DS}= 150V; V_{GS}= 0V$			0.1	mA
V_{SDF}	Diode forward voltage	$I_{SD}=25A, V_{GS}= 0V$			1.5	V

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