



FUKUCOM COMPANY LTD.

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FLAT P, 3/F., EVEREST INDUSTRIAL CENTRE, 396 KWUN TONG ROAD,
KWUN TONG, KOWLOON, HONG KONG.

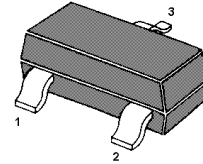
TEL: 852-2790 0314 FAX: 852-2790 0206

MMFTP84

P-Channel Enhancement Mode Vertical D-MOS Transistor

Features

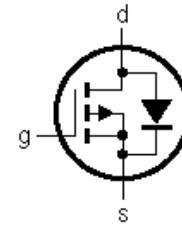
- Low threshold voltage
- Direct interface to C-MOS, TTL, etc
- High-speed switching
- No secondary breakdown



1. Gate 2. Source 3. Drain
SOT-23 Plastic Package

Applications

- Line current interrupter in telephone sets
- Relay, high speed and line transformer drivers



Caution

- The device is supplied in an antistatic package
- The gate-source input must be protected against static discharge during transport or handling

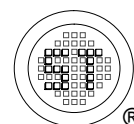
Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$-V_{DS}$	50	V
Gate-Source Voltage	V_{GSO}	± 20	V
Drain Current	$-I_D$	130	mA
Peak Drain Current	$-I_{DM}$	520	mA
Total Power Dissipation at $T_a \leq 25^\circ\text{C}$	P_{tot}	250 ¹⁾	mW
Operating Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	- 65 to + 150	$^\circ\text{C}$

Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal Resistance from Junction to Ambient	R_{thj-a}	500 ¹⁾	K/W

¹⁾ Device mounted on a printed-circuit board.





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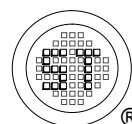
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Characteristics at $T_j = 25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage at $-I_D = 10\ \mu\text{A}$	$-V_{(BR)DSS}$	50	-	-	V
Gate-Source Threshold Voltage at $V_{DS} = V_{GS}$, $-I_D = 1\ \text{mA}$	$-V_{GSth}$	0.8	-	2	V
Drain-Source Leakage Current at $-V_{DS} = 40\ \text{V}$ at $-V_{DS} = 50\ \text{V}$ at $-V_{DS} = 50\ \text{V}$, $T_j = 125^\circ\text{C}$	$-I_{DSS}$	-	-	100 10 60	nA μA μA
Gate Leakage Current at $V_{GS} = \pm 20\ \text{V}$	I_{GSS}	-	-	± 10	nA
Drain-Source On-State Resistance at $-V_{GS} = 10\ \text{V}$, $-I_D = 130\ \text{mA}$	R_{DSon}	-	-	10	Ω
Forward Transfer admittance at $-V_{DS} = 25\ \text{V}$, $-I_D = 130\ \text{mA}$	$ y_{fs} $	50	-	-	mS
Input Capacitance at $-V_{DS} = 25\ \text{V}$, $f = 1\ \text{MHz}$	C_{iss}	-	-	45	pF
Output Capacitance at $-V_{DS} = 25\ \text{V}$, $f = 1\ \text{MHz}$	C_{oss}	-	-	25	pF
Reverse Transfer Capacitance at $-V_{DS} = 25\ \text{V}$, $f = 1\ \text{MHz}$	C_{rss}	-	-	12	pF
Turn-On Time at $V_{GS} = 0$ to $-10\ \text{V}$, $-V_{DD} = 40\ \text{V}$, $-I_D = 200\ \text{mA}$	t_{on}	-	3	-	ns
Turn-Off Time at $V_{GS} = -10$ to $0\ \text{V}$, $-V_{DD} = 40\ \text{V}$, $-I_D = 200\ \text{mA}$	t_{off}	-	7	-	ns





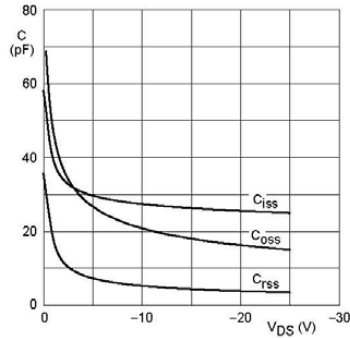
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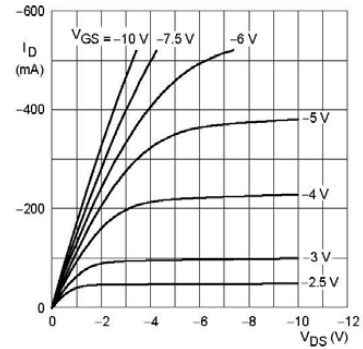
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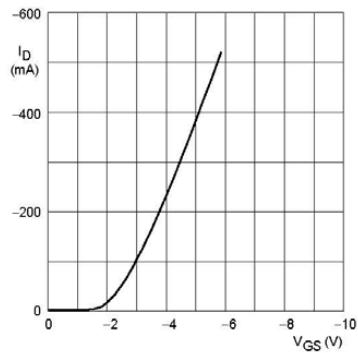
$V_{GS} = 0$; $T_j = 25^\circ\text{C}$; $f = 1\text{ MHz}$.

Fig.1 Capacitance as a function of drain source voltage; typical values.



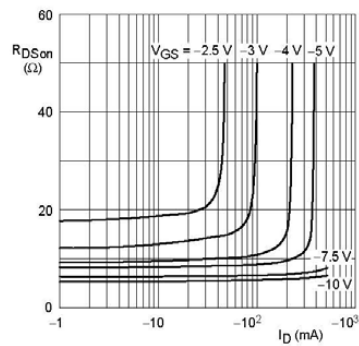
$T_j = 25^\circ\text{C}$.

Fig.2 Typical output characteristics.



$V_{DS} = -10\text{ V}$; $T_j = 25^\circ\text{C}$.

Fig.3 Typical transfer characteristics.



$T_j = 25^\circ\text{C}$.

Fig.4 Drain-source on-state resistance as a function of drain current; typical values.

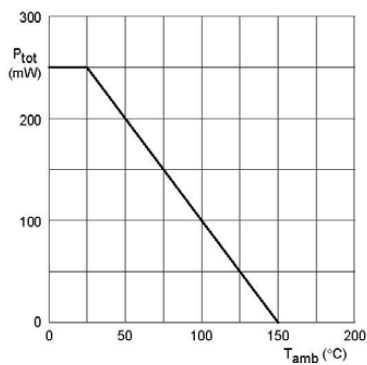


Fig.5 Power derating curve.

