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Micro Commercial Components



Micro Commercial Components
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Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Low ON-Resistance and low Input Capacitance
- Low Gate Threshold Voltage
- Fast Switching Speed
- Low Input/Output Leakage
- Ultra-Small Surface Mount Package
- Available in Lead Free/RoHS Compliant Version
- Case Material:Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1
- Marking:K72
- Halogen free available upon request by adding suffix "-HF"

Mechanical Data

- Case: SOT-523, Molded Plastic
- Terminal Connections: See Diagram

Maximum Ratings

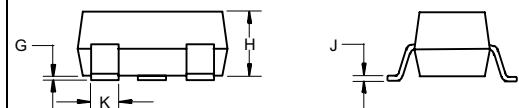
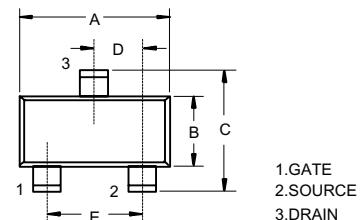
- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C

Parameter	Symbol	Value	Unit
Drain-Source-Voltage	V_{DSS}	60	V
Drain-Gate Voltage $R_{GS} \leq 1.0M\Omega$	V_{DGR}	60	V
Gate-Source-Voltage Continuous Pulsed	V_{GSS}	± 20 ± 40	V
Drain Current (Note 1) Continuous @ 100°C Pulsed	I_D	115 73 800	mA
Total Power Dissipation (Note 1)	P_D	150	mW

Note: 1. Valid provided that terminals are kept at specified ambient temperature.

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N-Channel Plastic-Encapsulate Transistor

SOT-523

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.059	.067	1.50	1.70	
B	.030	.033	.75	.85	
C	.057	.069	1.45	1.75	
D	.020 Nominal		0.50Nominal		
E	.035	.043	.90	1.10	
G	.000	.004	.000	.100	
H	.028	.031	.70	.80	
J	.004	.008	.100	.200	
K	.010	.014	.25	.35	

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Micro Commercial Components**Electrical Characteristics**@ $T_A = 25$ C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 2)						
Drain-Source Breakdown Voltage	BV_{DSS}	60			V	$V_{GS} = 0V, I_D = 10\mu A$
Zero Gate Voltage Drain Current @ $T_C = 25^\circ C$ @ $T_C = 125^\circ C$	I_{DSS}			1.0 500	μA	$V_{DS} = 60V, V_{GS} = 0V$
Gate-Body Leakage	I_{GSS}			± 10	nA	$V_{GS} = \pm 20V, V_{DS} = 0V$
ON CHARACTERISTICS (Note 2)						
Gate Threshold Voltage	$V_{GS(th)}$	1.0		2.0	V	$V_{DS} = V_{GS}, I_D = 250\mu A$
Static Drain-Source On-Resistance	$R_{DS(ON)}$		2.0 4.4	7.5 13.5	Ω	$V_{GS} = 5.0V, I_D = 0.05A$ $V_{GS} = 10V, I_D = 0.5A$
On-State Drain Current	$I_{D(ON)}$	0.5	1.0		A	$V_{GS} = 10V, V_{DS} = 7.5V$
Forward Transconductance	g_{FS}	80			mS	$V_{DS} = 10V, I_D = 0.2A$
DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{iss}		22	50	pF	$V_{DS} = 25V, V_{GS} = 0V$ $f = 1.0MHz$
Output Capacitance	C_{oss}		11	25	pF	
Reverse Transfer Capacitance	C_{rss}		2.0	5.0	pF	
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	$t_{D(ON)}$		7.0	20	ns	$V_{DD} = 30V, I_D = 0.2A,$ $R_L = 150 \text{ ohm}, V_{GEN} = 10V,$ $R_{GEN} = 25 \text{ ohm}$
Turn-Off Delay Time	$t_{D(OFF)}$		11	20	ns	

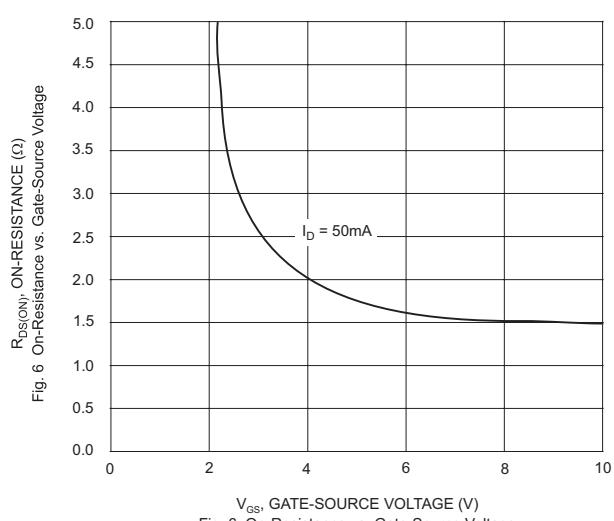
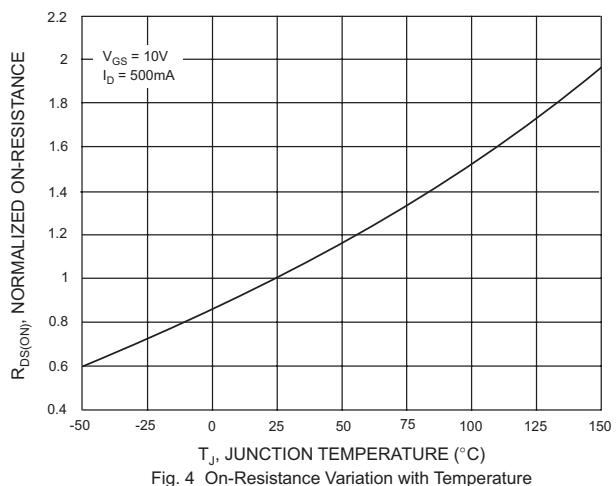
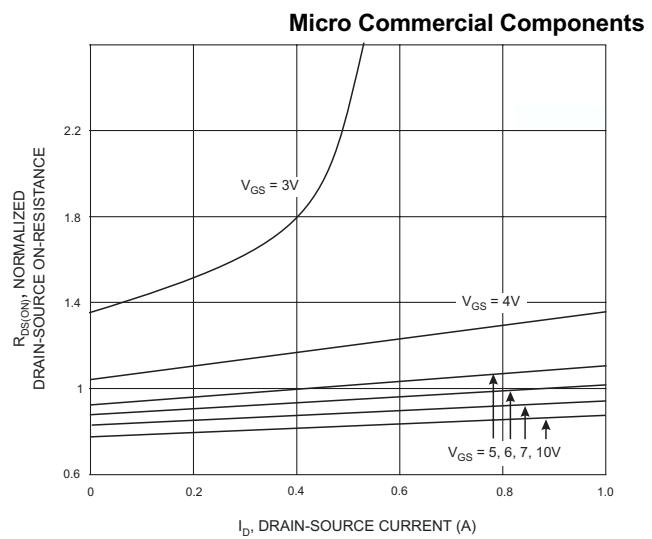
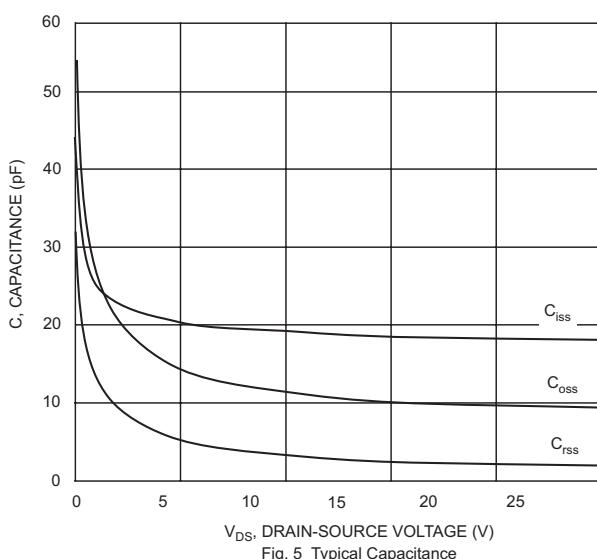
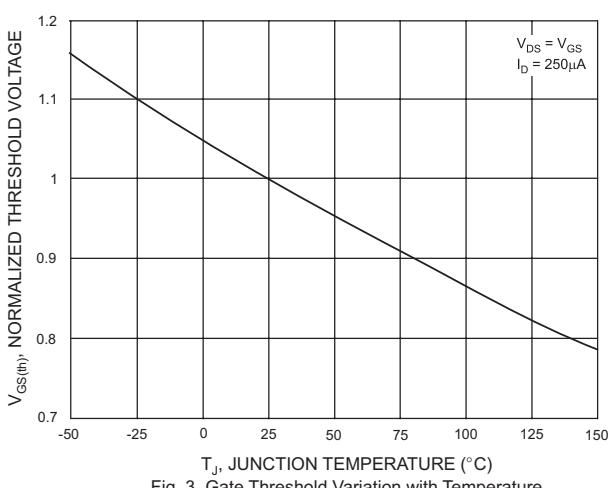
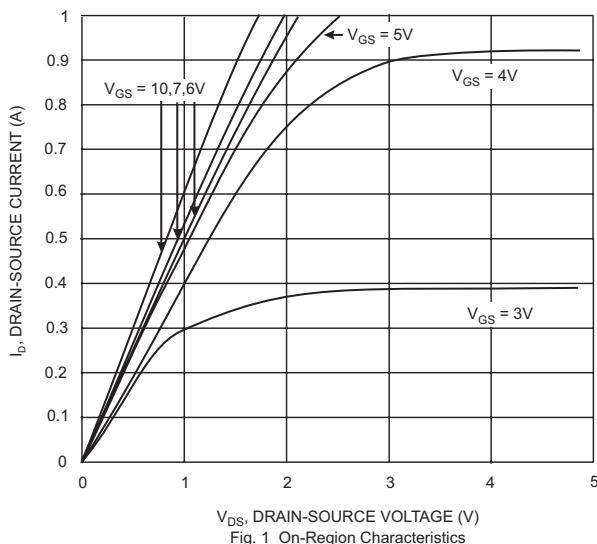
Note: 2. Short duration test pulse used to minimize self-heating effect.

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Ordering Information :

Device	Packing
(Part Number)-TP	Tape&Reel;3Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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