



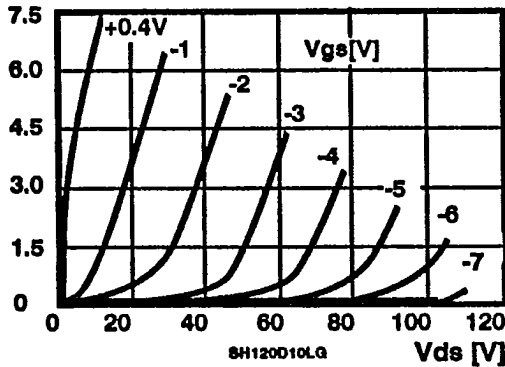
# SST™ SERIES SH/G

VHF/UHF SILICON POWER FETS  
10 TO 120 WATTS, 10MHz-1000MHz

T-39-01

MICROWAVE TECHNOLOGY 4268 Solar Way Fremont, CA 94538 415-651-6700 FAX 415-651-2208

$I_{ds}$ [A]



## FEATURES

- N-CHANNEL JFET, DEPLETION MODE
- APPLICATION RANGE 10 MHz TO 1000 MHz
- POWER OUTPUTS FROM 10 TO 120 WATTS CW
- CLASS A, B, OR C OPERATION
- HIGH POWER EFFICIENCY
- NO THERMAL RUNAWAY
- NO  $dV/dt$  LATCH-UP OR SECONDARY BREAKDOWN
- BROADBAND CAPABILITY
- COMMON GATE CONFIGURATION
- CHOICE OF PACKAGES

## DESCRIPTION

The SST Series SH silicon power FETs are designed for power amplifier applications where power efficiency, linearity, broadband performance, and ruggedness are top priorities. The structure of the SST can be called a Solid State Triode™ since it has a non-saturating I-V curve. The higher input impedance of these devices simplifies the design of multi-device matched power modules. Drain supply voltages of 28 to 65 volts insure lower currents than in other comparable FET structures producing higher power levels and efficiencies. Finally, the device is very rugged and can withstand high VSWR levels without damage and operate over very large temperature ranges ( $T_j$ ) from -200 to 200°C).

## ELECTRICAL SPECIFICATIONS – COMMON GATE CONFIGURATION\*

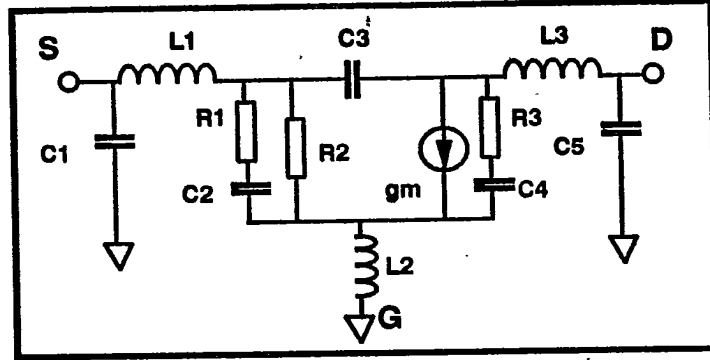
DEVICE	Output Power [W] min	D/S Blocking Volt. [V] min	Power Gain [dB] min <sup>1</sup>	Power Efficiency [%] min	MAXIMUM RATINGS		PKG
					Drain Current $I_{ds}$ [A]	Power Dissipation $P_d$ [W]	
SH15A10LG	15	100	8	55	1.5	50	A
SH25A10LG	25	100	8	55	2.0	65	A
SH25B10LG	25	100	8	55	2.0	75	B
SH35A10LG	35	100	8	55	4.0	70	A
SH50B10LG	50	100	8	50	4.5	100	B
SH75D10LG	75	100	8	50	5.0	150	D
SH80C10LG	80	100	8	50	3.5	150	C
SH100D10LG	100	100	8	50	8.0	200	D
SH120D10LG	120	100	8	50	8.0	200	D

\* Contact MwT for individual data sheets, additional specifications and test conditions.  
1- f=500 MHz,  $V_{ds}$ =50 Volts

9000-1471

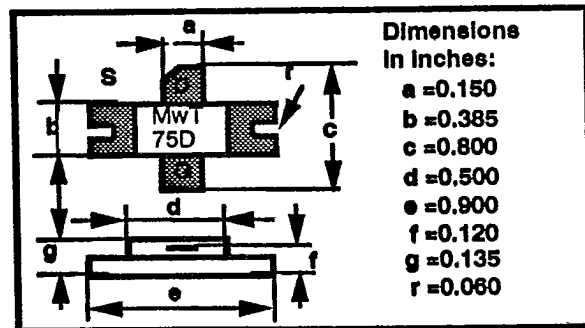
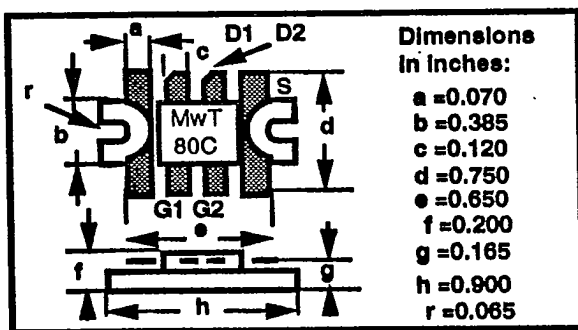
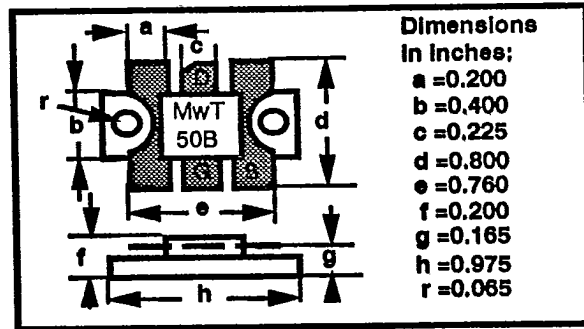
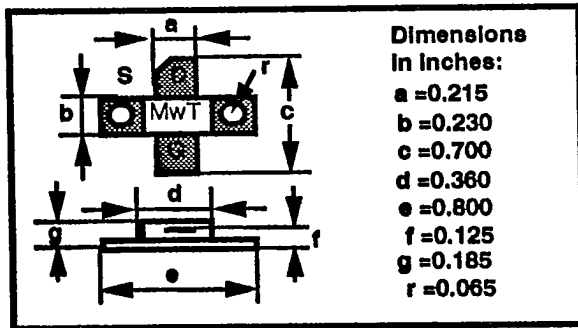


**EQUIVALENT CIRCUIT**



DEVICE	C1 [pF]	C2 [pF]	C3 [pF]	C4 [pF]	C5 [pF]	gm [mS]	L1 [nH]	L2 [nH]	L3 [nH]	R1 [Ω]	R2 [Ω]	R3 [Ω]
SH15A10LG	1.1	10	1.0	10	1.1	270	1.0	0.1	0.7	6	15	5
SH25A10LG	1.5	10	1.3	10	1.5	320	1.0	0.1	0.7	4	12	4
SH25B10LG	1.5	10	1.3	10	1.5	320	1.0	0.1	0.7	4	12	4
SH35A10LG	1.5	25	2.1	22	1.5	600	0.3	0.1	0.3	2	2	2
SH50B10LG	1.5	20	2.5	17	1.5	750	0.7	0.2	0.7	3	8	2
SH75D10LG	1.5	35	4.5	31	1.5	1100	0.2	0.1	0.2	2	3	2
SH80C10LG	1.5	20	2.2	17	1.5	700	0.7	0.1	0.7	3	8	2
SH100D10LG	1.5	38	6.0	32	1.5	1200	0.3	0.2	0.3	2	5	2
SH120D10LG	2.0	45	6.5	37	2.0	1500	0.2	0.1	0.2	1	4	1

**PACKAGE DRAWINGS**



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