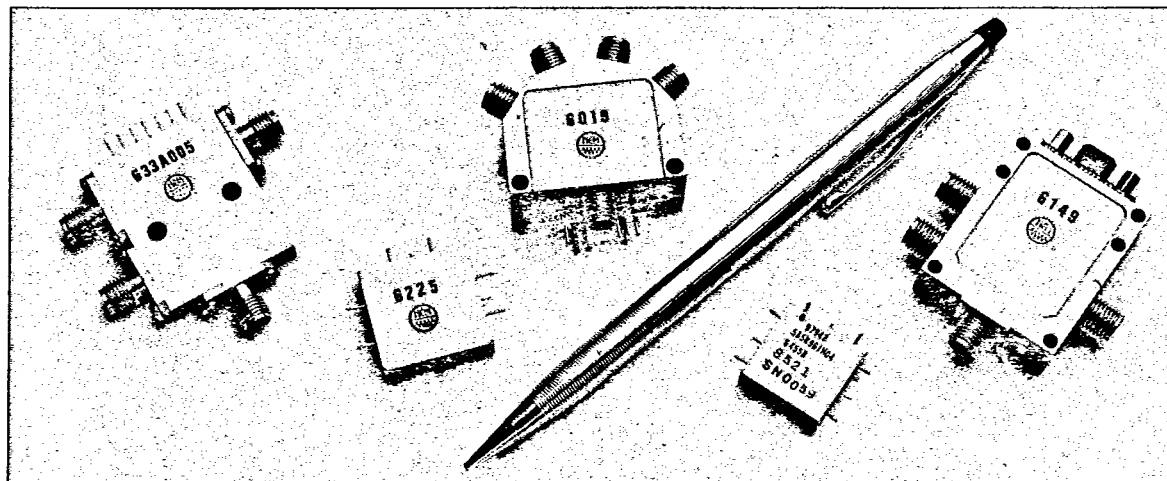


NEW ENGLAND MICROWAVE CORPORATION

MINIATURE SP3T SWITCHES



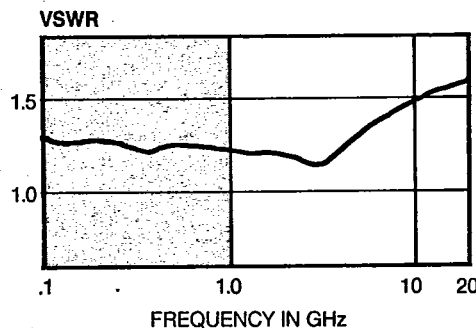
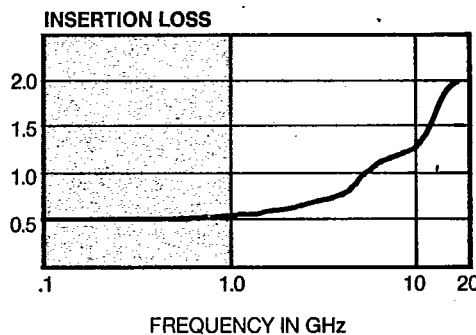
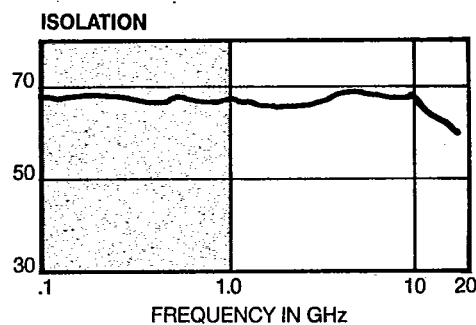
FEATURES

- Hermetic, meeting MIL-STD 883, Method 1014, Condition A
- Miniature, compact design
- Large choice of package styles
- Switching speeds down to 3 nanoseconds rise time
- Low power dissipation
- Broad band: Models to cover .1 - 18 GHz
- Integral TTL compatible drivers
- 125°C to -55°C temperature range
- Mounting holes for securing assembly (except style codes 1 and 7)

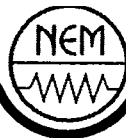
DESCRIPTION

New England Microwave's Series 63 SP3T PIN diode switches address a broad range of switching requirements, from .1 to 18 GHz. Designed for high reliability, NEM switches operate over the entire military temperature range of -55°C to +125°C. Many of our units offer state-of-the-art performance: highspeed, low loss, high isolation. Others are ideal for a variety of multi-purpose switching needs. Because we control the entire manufacturing process, from production of PIN diode wafers through final assembly and testing, you can be sure each switch will perform to exacting specifications.

If you don't see the exact combination of characteristics you're looking for, please call us. Chances are, we already have the right switch for your applications, or we will be able to design one with minimum additional costs.



Above curves represent typical performance of NEM switches in their respective bands. Consult Electrical Specifications Chart, pg. 2, for frequency range of specific models.



ELECTRICAL SPECIFICATIONS CHART

FREQUENCY (GHz)	.1 - .5		.5 - 1		1 - 2		2 - 4		4 - 8		8 - 12		12 - 18	
	VSWR	I.L.	VSWR	I.L.	VSWR	I.L.	VSWR	I.L.	VSWR	I.L.	VSWR	I.L.	VSWR	I.L.
Model 001	1.5	1.0												
002			1.75	1.2	1.8	1.4								
004					1.8	1.5	2.0	2.0	2.5	2.2	2.5	2.8		
005							2.0	2.0	2.5	2.5	2.5	2.8	2.7	3.5

VSWR specified for transmission path only.

ISOLATION 50 dB, 8-18 GHz minimum for all models.

DC SUPPLY ± 5 VDC for minimum power dissipation.

NOTE: These switches are reflective. For non-reflective versions, please discuss with factory.

LOGIC/SWITCHING SPEED

Below are two logic Truth Tables. Each Truth Table is available with two different switching speeds:

TTL (Slow): 1 μ sec

TTL (Fast): 20 nsec

(Typical RF rise time 3 nsec.)

Select the appropriate ordering code letter, A - D that meets your requirements. This letter will be used in the 4th position in your seven place NEM Ordering Code (see last page for "How to Order").

Table 1

CONTROL			RF		
VC ₁	VC ₂	VC ₃	J ₂	J ₃	J ₄
L	L	L	X	X	X
L	L	H	ISO	ISO	IL
L	H	L	ISO	IL	ISO
H	L	L	IL	ISO	ISO

Ordering Code

A = TTL (Fast)

B = TTL (Slow)

Table 2

CONTROL			RF		
VC ₁	VC ₂	VC ₃	J ₂	J ₃	J ₄
H	H	H	X	X	X
H	H	L	ISO	ISO	IL
H	L	H	ISO	IL	ISO
L	H	H	IL	ISO	ISO

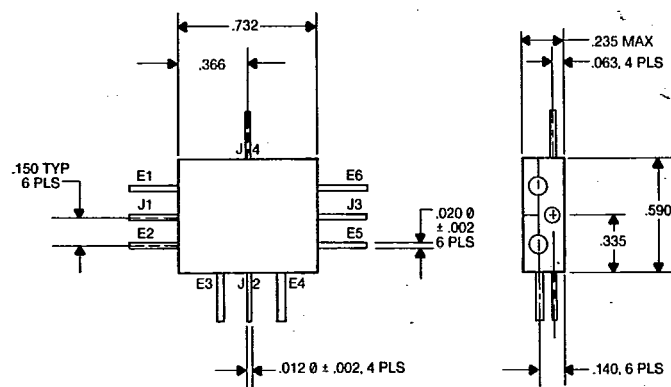
Ordering Code

C = TTL (Fast)

D = TTL (Slow)

PACKAGE STYLES

Style Code 1



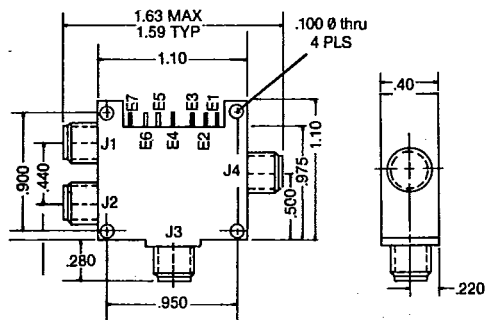
PIN	CONNECTION
E1	+5V
E2	VC (J1)
E3	GND
E4	VC (J2)
E5	VC (J3)
E6	-5V
J1	RF
J2	RF
J3	RF
J4	RF COMMON



Style Code 3

Style Code 3

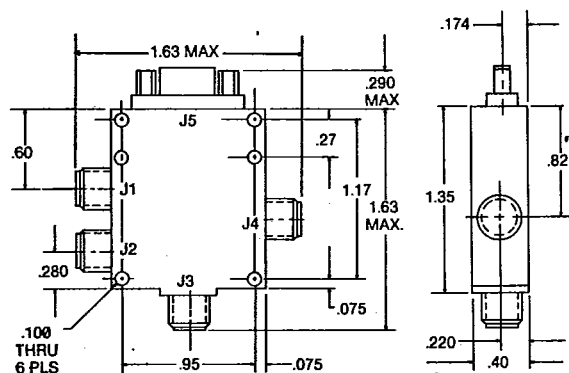
.020 $\pm$.001
8 PLS
200
.100 TYP
7 PLS
250
1 2 3 4 5 6 7 8
J3 J4
1.30
J2
.325
YYXX
SN ZZZ
J1
.600
.390 MAX.
TYP.
.196
.500
.608
1.00



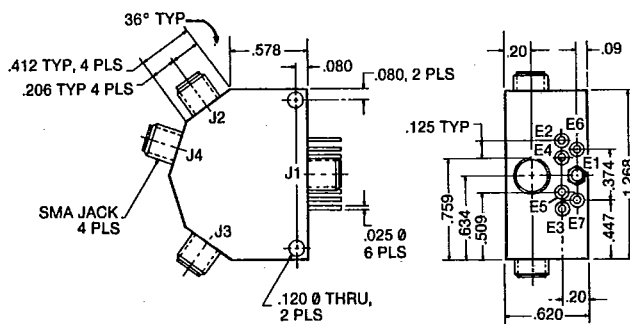
PIN	CONNECTION	PIN	CONNECTION
J1	RF	E3	VC (J1)
J2	RF	E4	GROUND
J3	RF	E5	VC (J2)
J4	RF COMMON	E6	VC (J3)
E1	+5V	E7	NC
E2	-5V		

PIN	CONNECTION	PIN	CONNECTION
E1	+5V	E7	-12V
E2	VC (J2)	E8	NC
E3	NC	J1	RF COMMON
E4	GND	J2	RF
E5	VC 2 (J3)	J3	RF
E6	VC 3 (J4)	J4	RF

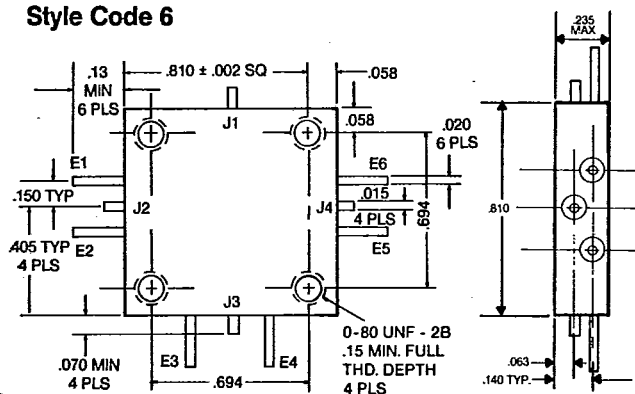
Style Code 5



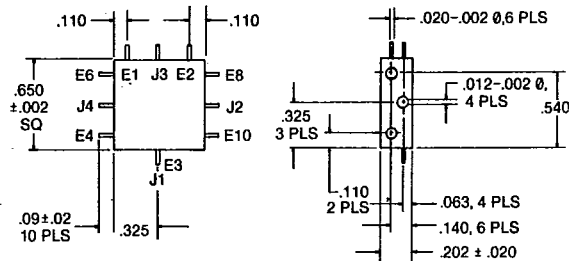
PIN	CONNECTION	PIN	CONNECTION
J1	RF	J5 - 4	VC1 (J2)
J2	RF	J5 - 5	VC2 (J3)
J3	RF	J5 - 6	VC3 (J4)
J4	RF COMMON	J5 - 7	NC
J5 - 1	GROUND	J5 - 8	GROUND
J5 - 2	+5V	J5 - 9	NC
J5 - 3	-5V		



PIN	CONNECTION	PIN	CONNECTION
E1	GND	E7	NC
E2	+5V	J1	RF COMMON
E3	-5V	J2	RF VC 1
E4	VC2	J3	RF VC 3
E5	VC3	J4	RF VC 2
E6	VC1		

Style Code 7

PIN	CONNECTION	PIN	CONNECTION
E1	+5V	E6	-5V
E2	VC (J2)	J1	RF COMMON
E3	GND	J2	RF
E4	VC (J3)	J3	RF
E5	VC (J4)	J4	RF



PIN	CONNECTION	PIN	CONNECTION
E1	+5 V	E6	CONTROL 2
E2	-5 V	J3	RF
J1	RF COMMON	E8	CONTROL 3
E4	VC (J4)	J4	RF
J2	RF OUT 1	E10	NC

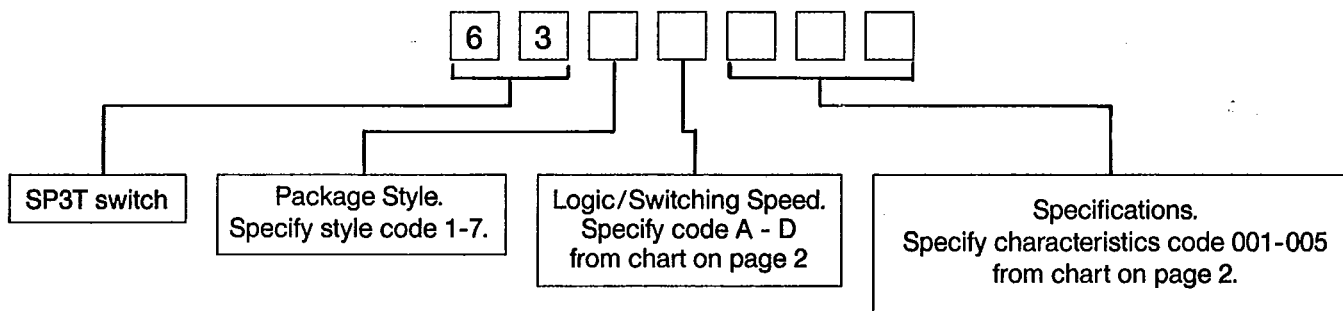


MINIATURE SP3T SWITCHES (Cont.)

HOW TO ORDER

Each SP3T Switch has a seven digit ordering code beginning with "63" to designate switch type SP3T. The digits following the "63" will specify the particular performance and package style you require.

NOTE: Standard switches are supplied with Integral driver. Switches without drivers can be ordered upon special request.

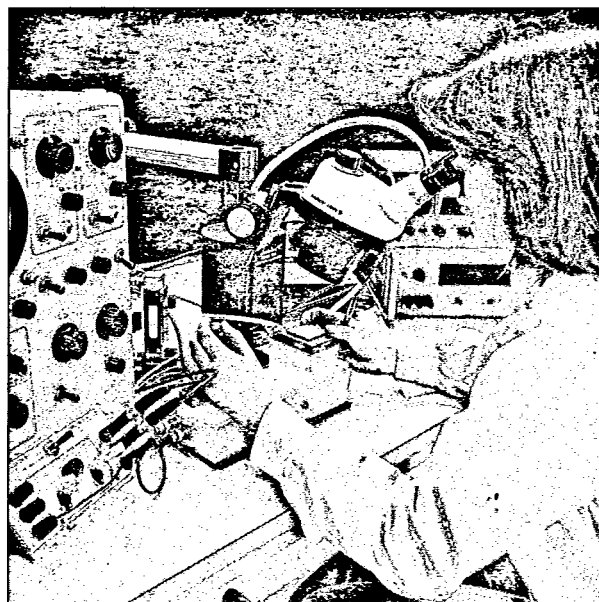


SCREENING

NEM routinely performs the following MIL-STD 883 screening procedures on all hybrid devices produced:

Internal Visual (Precap)	Method 2017
Stabilization Bake	Method 1008, Cond. B 24 hours
Temperature Cycling	Method 1010, Cond. B
Seal Test Gross Leak	Method 1014, Cond. A
Final Electrical	Per Applicable Document

Additional screening including full compliance with MIL-STD 883, Method 5008 is available at additional cost.



Precise matching of diodes insures optimum performance in each arm in NEM multi-throw switches.

Represented By: