YEA SHIN TECHNOLOGY CO., LTD

9012P/Q

General Purpose Transistors

PNP Silicon

FEATURE

We declare that the material of product compliance with RoHS requirements.

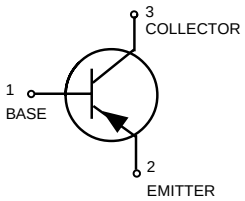
SOT-23 (TO-236AB)

ORDERING INFORMATION

Device	Package	Shipping
9012X	SOT-23	3000/Tape&Reel

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	20	V
Collector-Base Voltage	V_{CBO}	40	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector current-continuoun	IC	500	mAdc



THERMAL CHARATEERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board,	P_D		
T_A=25°C		225	mW
Derate above 25°C		1.8	mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	°C/W
Total Device Dissipation	P_D		
Alumina Substrate, T_A=25 °C		300	mW
Derate above 25°C		2.4	mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	°C/W
Junction and Storage Temperature	Tj ,Tstg	-55 to +150	°C

DEVICE MARKING

9012P=12P 9012Q=12Q

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage (I_C=1.0mA)	$V_{(BR)CEO}$	20	-	-	V
Emitter-Base Breakdown Voltage (I_E=100 μA)	$V_{(BR)EBO}$	5	-	-	V
Collector-Base Breakdown Voltage (I_C=100 μA)	$V_{(BR)CBO}$	40	-	-	V
Collector Cutoff Current (V_{CB}=35V)	I_{CBO}	-	-	150	nA
Emitter Cutoff Current (V_{BE}=4V)	I_{EBO}			150	nA

PACKAGE OUTLINE & DIMENSIONS

9012P/Q

ON CHARACTERISTICS

DC Current Gain (I_C=50mA, V_{CE}=1V)	H_{fe}	100	-	300	
Collector-Emitter Saturation Voltage (I_C=500mA,I_B=50mA)	$V_{CE(S)}$	-	-	0.6	V

NOTE :

*	P	Q
h_{FE}	100~200	150~300

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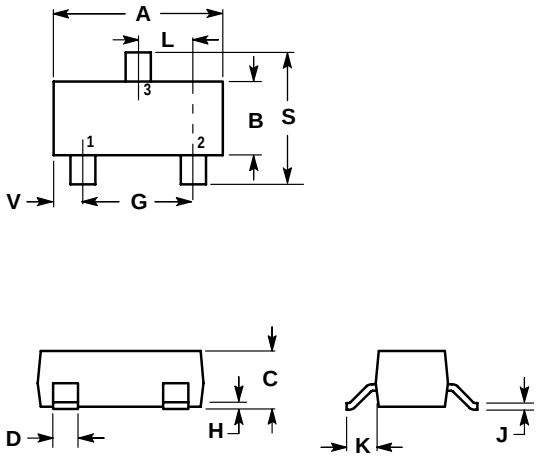

NOTES:

1. CONTROLLING DIMENSION: MILLIMETERS
2. LEAD THICKNESS SPECIFIED PER L / F DRAWING WITH SOLDER PLATING.

DIM	INCHES MIN	INCHES MAX	MILLIMETERS MIN	MILLIMETERS MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0180	0.0236	0.45	0.60
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.0984	2.10	2.50
V	0.0177	0.0236	0.45	0.60

PIN 1. BASE
2. EMITTER
3. COLLECTOR