

General specifications of all available packages , at Ta=+25°C , CL=15pF

Group	R			Y				P				
Model , Frequency Range	(1) 3HM57 - R ( 7.0 * 5.0 * 1.8 mm ) ( 3.5 ~ 165.0 MHz )			(1) 3HM57 - Y ( 7.0 * 5.0 * 1.8 mm ) ( 8.0 ~ 165.0 MHz )				3HM57 - P ( 7.0 * 5.0 * 1.8 mm )  ( 13.0 ~ 220.0 MHz )				
	(2) 3HM53 - R ( 5.0 * 3.2 * 1.2 mm ) ( 6.0 ~ 160.0 MHz )			(2) 3HM53 - Y ( 5.0 * 3.2 * 1.2 mm ) ( 10.0 ~ 160.0 MHz )								
Spread Type	Total%	Down Spread	Center Spread	Type	Total%	Down Spread	Center Spread	Total%	Down Spread	Center Spread		
Spread Percentage	0.5%	-0.5% ( D0.5 )	± 0.25% ( C0.25 )	3HM53	1.0%	-1.0% ( D1.0 )	± 0.5% ( C0.5 )	0.5%	-0.5% ( D0.5 )	± 0.25% ( C0.25 )		
		Not available if Tri-state chosen			3.0%	-3.0% ( D3.0 )	± 1.5% ( C1.5 )	0.75%	-0.75% ( D0.75 )	± 0.375% ( C0.375 )		
		Not available if Tri-state chosen		1.0%	-1.0% ( D1.0 )	± 0.5% ( C0.5 )	3HM57	1.0%	-1.0% ( D1.0 )	± 0.5% ( C0.5 )	1.25%	-1.25% ( D1.25 )
	1.0%	-1.0% ( D1.0 )	± 0.5% ( C0.5 )	2.0%	-2.0% ( D2.0 )	± 1.0% ( C1.0 )		2.0%	-2.0% ( D2.0 )	± 1.0% ( C1.0 )		
	3.0%	-3.0% ( D3.0 )	± 1.5% ( C1.5 )	3.0%	-3.0% ( D3.0 )	± 1.5% ( C1.5 )		3.0%	-3.0% ( D3.0 )	± 1.5% ( C1.5 )	3.75%	-3.75% ( D3.75 )
	EMI Reduction ( EMI reduction applies to the whole spectrum. )	-7 dBc (min.) , 100MHz at C0.25 -9 dBc (min.) , 100MHz at C0.5 -15 dBc (min.) , 100MHz at C1.5 ( dBc : with respect to no modulation )			-9 dBc (min.) , 100MHz at C0.5 -12 dBc (min.) , 100MHz at C1.0 -15 dBc (min.) , 100MHz at C1.5 ( dBc : with respect to no modulation )				EMI reduction (dB) = 10 Log Total%*SSC Frequency (MHz) / 0.12 See 125MHz example on next page			
Modulation Carrier Frequency ( Dither rate )	6.9 KHz (min.) ; 55.5 KHz (max.) Frequency dependent . Call for details			12 KHz (min.) ; 42 KHz (max.) Frequency dependent . Call for details				25.3 KHz (min.) ; 58.6 KHz (max.) Frequency dependent . Call for details				
Output Logic	CMOS ( Square Wave )			CMOS ( Square Wave )				CMOS ( Square Wave )				
Input Voltage ( V <sub>DD</sub> )	V <sub>DD</sub> = +3.3V D.C. ±5%			V <sub>DD</sub> = +3.3V D.C. ±5%				V <sub>DD</sub> = +3.3V D.C. ±5%				
Frequency Stability <sup>(1)</sup> Codes ( exclude modulation )	Frequency Stability over Operating Temperature Range			± 25 ppm	± 50 ppm	± 100 ppm		If non-standard , please enter the desired stability after the " C " or " I " represents .				
	Commercial ( -10°C to +70°C )			A	B	C		For example : " C20 " ± 20ppm over -10°C to +70°C ; " I20 " ± 20 ppm over -40°C to +85°C				
	Industrial ( -40°C to +85°C )			D	E	F						
Output Logic " High " , " 1 "	2.0V (min.) ; 3.2V (typ.) [ at 90% V <sub>DD</sub> ]			2.0V (min.) ; 3.2V (typ.) [ at 90% V <sub>DD</sub> ]				2.4V (min.) ; [ at 80% V <sub>DD</sub> ]				
Output Logic " Low " , " 0 "	0.8V (max.) ; 0.2V (typ.) [ at 10% V <sub>DD</sub> ]			0.8V (max.) ; 0.2V (typ.) [ at 10% V <sub>DD</sub> ]				0.4V (max.) ; [ at 20% V <sub>DD</sub> ]				
Rise Time / Fall Time	4n sec. (max.) [ 10% V <sub>DD</sub> ↔ 90% V <sub>DD</sub> ]			4n sec. (max.) [ 10% V <sub>DD</sub> ↔ 90% V <sub>DD</sub> ]				1.3 n sec. (max.) [ 20% V <sub>DD</sub> ↔ 80% V <sub>DD</sub> ]				
Load	15pF			15pF				15pF				
Start-up Time	2 m sec. (typ.) ; 5 m sec. ( max. )			2 m sec. (typ.) ; 5 m sec. ( max. )				2 m sec. (typ.) ; 5 m sec. ( max. )				
Current Consumption	10.0 ~ 50.000 MHz : 10mA (typ.) 50.0 ~ 100.0 MHz : 18mA (typ.) 100.0 ~ 160.0 MHz : 35mA (typ.)			10.0 ~ 50.000 MHz : 10mA (typ.) 50.0 ~ 125.0 MHz : 27mA (typ.) , 44mA (max.)				25mA (typ.) ; Frequency dependent				
Duty Cycle	50% ± 5% ( CL=15pF ; at 50% V <sub>DD</sub> )			50% ± 5% ( CL=15pF ; at 50% V <sub>DD</sub> )				50% ± 5% ( CL=15pF ; at 50% V <sub>DD</sub> )				
Cycle-to-Cycle Jitter	±250 ps (typ.) ; ±300 ps (max.)			±100 ps (typ.) ; ±150 ps (max.)				±100 ps (typ.)				
Static Discharge Voltage	>2,000V ( per MIL-STD-883 , method 3015 )			>2,000V ( per MIL-STD-883 , method 3015 )				>2,000V ( per MIL-STD-883 , method 3015 )				
Storage Temperature	-65°C to + 150°C			-65°C to + 150°C				-65°C to + 150°C				
Aging	± 5 ppm per year (max.) ; Ta = +25°C			± 5 ppm per year (max.) ; Ta = +25°C				± 5 ppm per year (max.) ; Ta = +25°C				
Packaging	16mm tape and reel . 1000pcs per reel			16mm tape and reel . 1000pcs per reel				16mm tape and reel . 1000pcs per reel				
Pin 1 Option	Tri-State enable high. Output is high impedance when taken low . Enable / disable time: 100 ms max.						Do not make connection to this pad . No Tri-State option available.					